# REVISION HISTORY BX1 CHASSIS

MODEL

*KV-AR25M90B*

PART NO.: 9-872-414-01

| NO. | SUFFIX | DATE | SUPPL. / CORR | DESCRIPTION |
|---|---|---|---|---|
| 1 | -01 | 2003/11 | -- | 1st. Issue |
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Self Diagnosis
Supported model

# SERVICE MANUAL

# BX1 CHASSIS

| MODEL | COMMANDER | DEST. | CHASSIS NO. | MODEL | COMMANDER | DEST. | CHASSIS NO. |
|---|---|---|---|---|---|---|---|
| KV-AR25M90B | RM-W104 | Hong Kong | SCC-U97J-A | | | | |

RM-W104

TRINITRON® COLOR TV

SONY®

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**INSTRUCTION MANUAL**

**CAUTION**

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.**

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

# SELF DIAGNOSIS FUNCTION

The units in this manual contain a self diagnosis function. If an error occurs, the STANDBY (⏻) indicator will automatically begin to flash. The number of times the STANDBY (⏻) indicator flashes translates to a probable source of the problem. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

## 1. DIAGNOSIS TEST INDICATORS

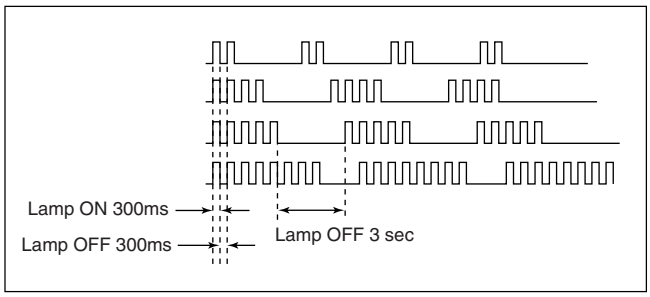
When an errors occurs, the STANDBY/(⏻) indicator will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the indicator will identify the first of the problem areas.

Result for all of the following diagnosis items are displayed on screen. No error has occured if the screen displays a "0".

| Diagnosis Item Description | No. of times STANDBY/TIMER lamp flashes | Self-diagnostic display/Diagnosis result | Probable Cause Location | Detected Symptoms |
|---|---|---|---|---|
| • Power does not turn on | Does not light | — | • Power cord is not plugged in.<br>• Fuse is burned out (F4601) (A Board) | • Power does not come on.<br>• No power is supplied to the TV.<br>• AC power supply is faulty. |
| • +B overcurrent (OCP)* | 2 times | 2:0<br>2:1 ~ 255 | • H.OUT (Q511) is shorted. (A board)<br>• IC751 is shorted. (C/CV Board) | • Power does not come on.<br>• Load on power line is shorted. |
| • I-Port | 4 times | 4:0<br>4:1 ~ 255 | • +13V is not supplied. (A Board)<br>• IC503 voltage list is faulty. (A Board) | • Has entered standby state after horizontal raster.<br>• Vertical deflection pulse is stopped.<br>• Power line is shorted or power supply is stopped. |
| • IK (AKB) | 5 times | 5:0<br>5:1 ~ 255 | • Video OUT (IC751) is faulty. (C Board)<br>• IC001 is faulty. (A Board)<br>• Screen (G2) is improperly adjusted. | • No raster is generated.<br>• CRT cathode current detection reference pulse output is small. |
| • HV Protect | 8 times | 8:0<br>8:1 ~ 255 | • IC604 faulty.<br>• IC607 faulty. | • No power supply to CRT ANODE.<br>• No RASTER is generated. |

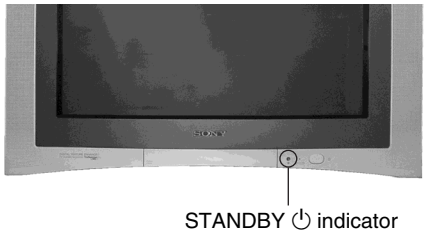
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 2-4 of this manual.

## 2. DISPLAY OF STANDBY/(⏻) indicator FLASH COUNT




| Diagnosis Item | Flash Count* |
|---|---|
| +B overcurrent | 2 times |
| I-Prot | 4 times |
| IK (AKB) | 5 times |
| HV Protect | 8 times |

* One flash count is not used for self-diagnosis.




## 3. STOPPING THE STANDBY/(⏻) indicator FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/(⏻) lamp from flashing.

## 4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurence of failure on the screen for confirmation.

**[To Bring Up Screen Test]**

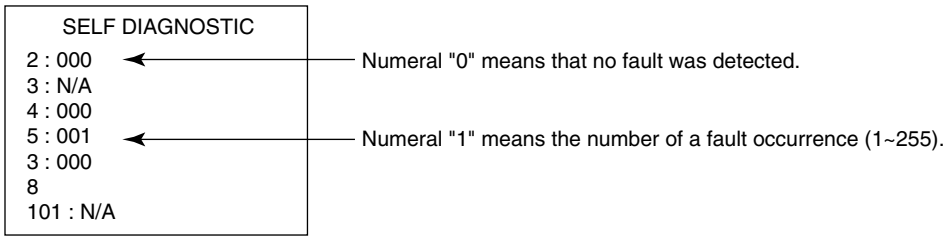
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

display ➡ channel 5 ➡ volume - ➡ Power ⏻ / TV

⇧

Note that this differs from entering the service mode (volume +).

**Self-Diagnostic screen display**



## 5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnosis results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

Unless the result display is cleared to "0", the self-diagnosis function will not be able to detect subsequent faults after completion of the repairs.

**[Clearing the result display]**

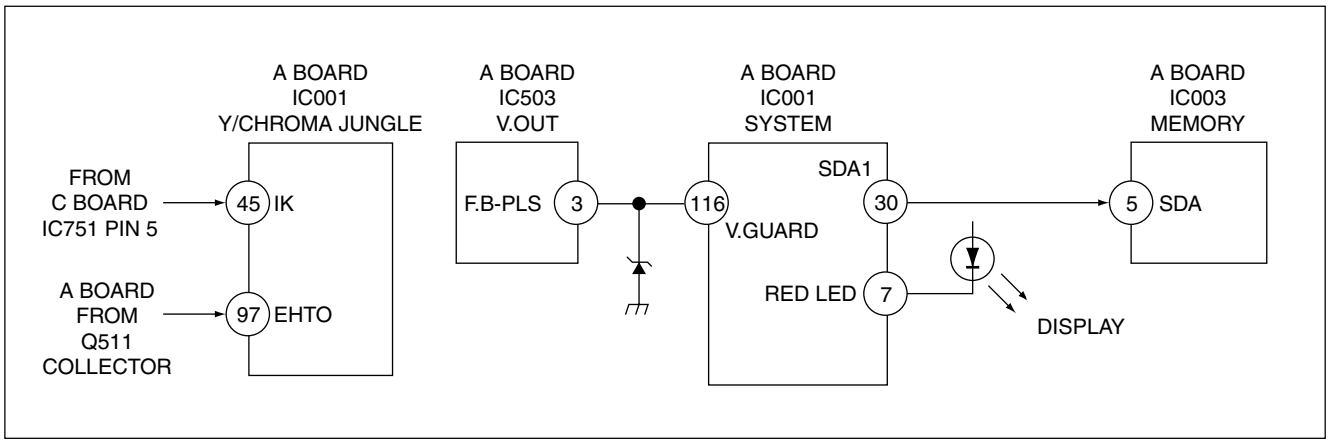
To clear the result display to "0", press buttons on the remote commander sequentially when the self-diagnostic screen is displayed, as shown below:

Channel [8] ➡ [ENTER]

**[Quitting Self-diagnostic screen]**

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

## 6. SELF-DIAGNOSIS CIRCUIT

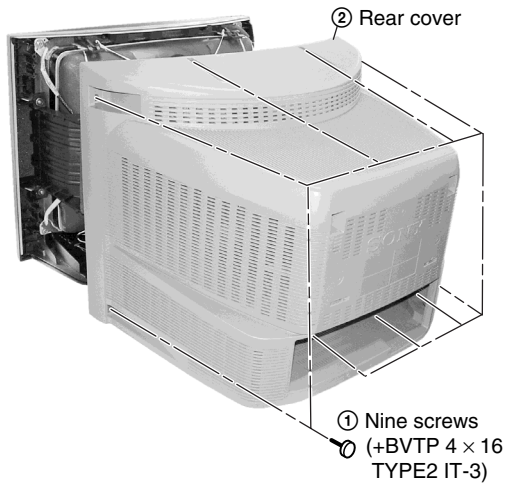



| | |
|---|---|
| [+B overcurrent OCP] | Occurs when an overcurrent on the +B (135V) line is detected by pin 32 of IC001 (A Board). If the voltage of pin 97 of IC001 (A Board) is less than 1V when V.SYNC is more than HV, the unit will automatically go to standby. |
| [I-Port] | Occurs when an absence of the vertical deflection pulse is detected by pin 13 of IC001 (A Board). |
| [IK (AKB)] | If the RGB levels* do not balance within 15 sec after the power is turned on, this error will be detected by IC001 (A Board). TV will stay on, and indicator will start to Blink 5 times. |
| [HV Protect] | Occurs when IC001 internal HV protect detects an abnormal H-Pulse (frequency) due to unproper power supply to IC001. TV cuts off high voltage power of anode CRT. No picture will be detected eg IC607, IC604 go faulty. |

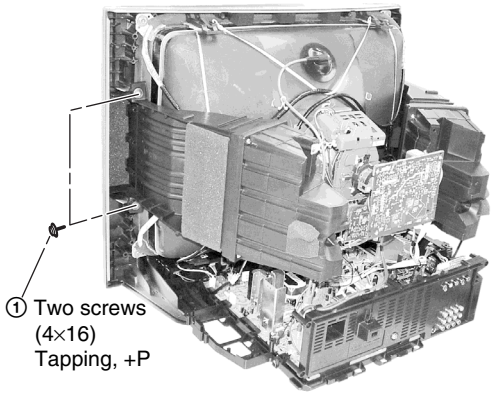
* (Refers to the RGB levels of the AKB detection Ref pulse that detects 1K.)

# SECTION 1
# DISASSEMBLY

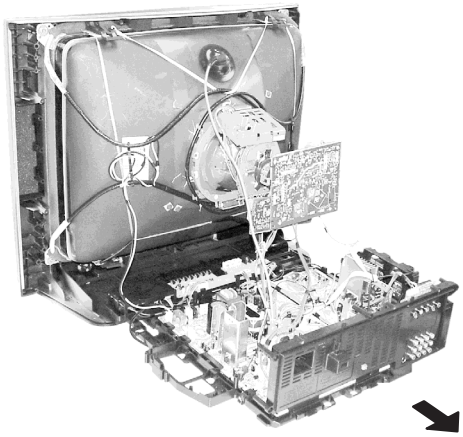
## 1-1. REAR COVER REMOVAL



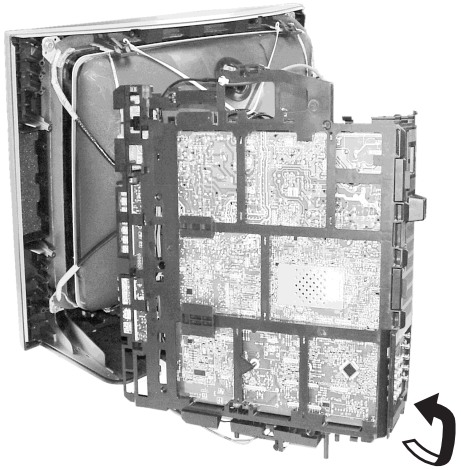

## 1-2. SPEAKER BLOCK REMOVAL



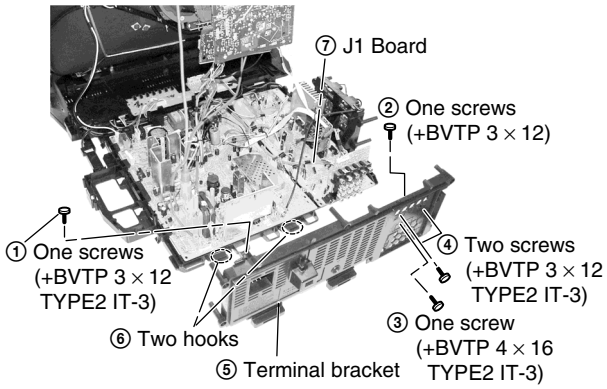

## 1-3. CHASSIS ASSY REMOVAL



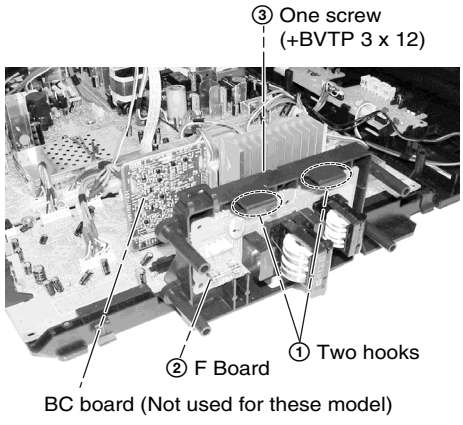
## 1-4. SERVICE POSITION



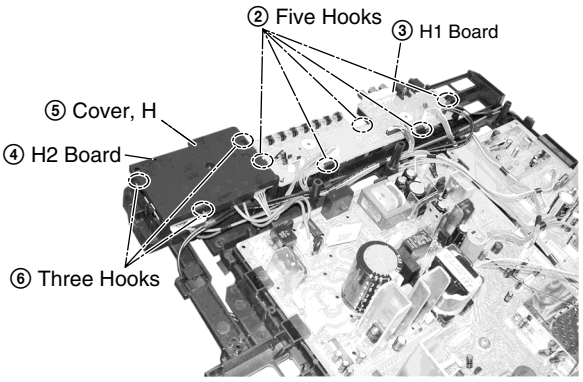
## 1-5. TERMINAL BRACKET AND J1 BOARD REMOVAL



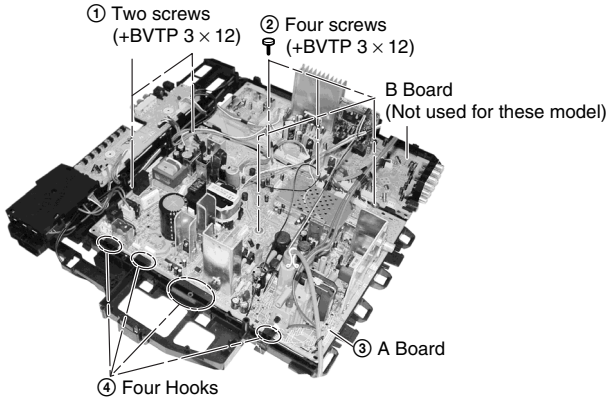

## 1-6. F BOARD REMOVAL



## 1-7. H1 AND H2 BOARDS REMOVAL




## 1-8. A BOARD REMOVAL

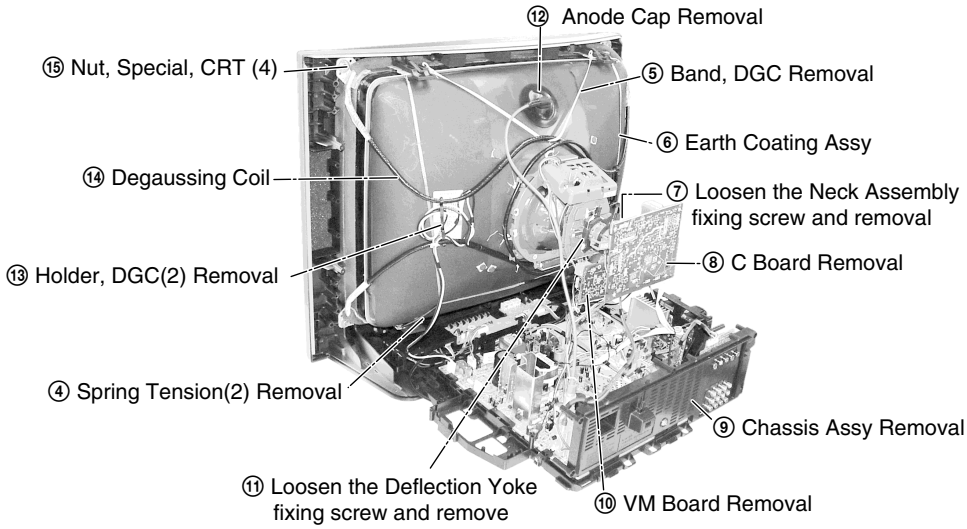



## 1-9. PICTURE TUBE REMOVAL

**Note:**

- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.

1) Place the TV set with the CRT face down on a cushion jig
2) Remove the rear cover.
3) Remove the Speaker Block Assy.

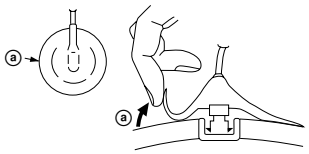

⑫ Anode Cap Removal
⑮ Nut, Special, CRT (4)
⑤ Band, DGC Removal
⑥ Earth Coating Assy
⑭ Degaussing Coil
⑦ Loosen the Neck Assembly fixing screw and removal
⑬ Holder, DGC(2) Removal
⑧ C Board Removal
④ Spring Tension(2) Removal
⑨ Chassis Assy Removal
⑪ Loosen the Deflection Yoke fixing screw and remove
⑩ VM Board Removal

## • REMOVAL OF ANODE-CAP

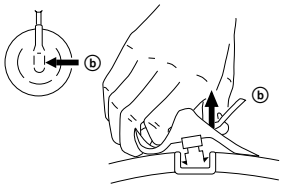
**Note:**

- After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

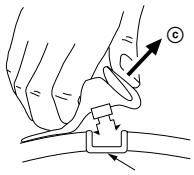
### • REMOVING PROCEDURES




① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.**




② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.**

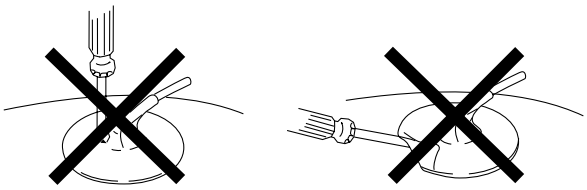



anode button

③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.**

### • HOW TO HANDLE AN ANODE-CAP

① **Do not damage the surface of anode-caps with sharp shaped objects.**
② **Do not press the rubber too hard so as not to damage the inside of anode-cap.**
**A metal fitting called the shatter-hook terminal is built into the rubber.**
③ **Do not turn the foot of rubber over too hard.**
**The shatter-hook terminal will stick out or damage the rubber.**



# SECTION 2
# SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Set the controls as follows unless otherwise noted:
VIDEO MODE: ..... Standard
PICTURE CONTROL: ..... Normal
BRIGHTNESS CONTROL: ..... Normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. Screen(G2)
5. White Balance

**Note** : Test Equipment Required.
1. Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter
5. Oscilloscope

**Preparation :**

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

## 2-1. BEAM LANDING

**PICTURE MODE: DYNAMIC**

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck assy as shown in Fig 2-1.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (Figures 2-2 through 2-4.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (Figure 2-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke have been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (Figure 2-5.)

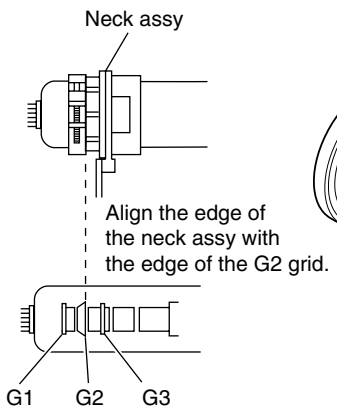



Fig. 2-1

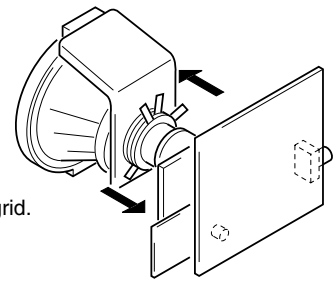


Fig. 2-2

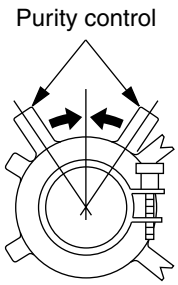



Fig. 2-3

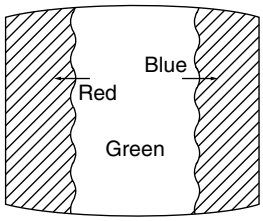



Fig. 2-4

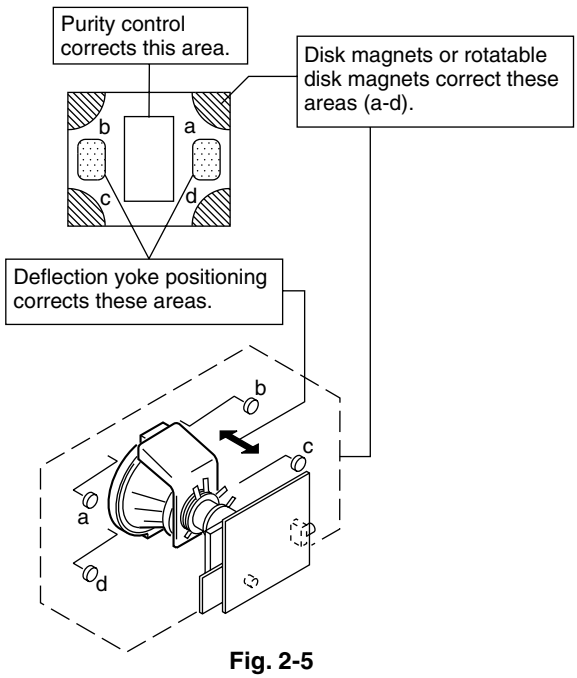
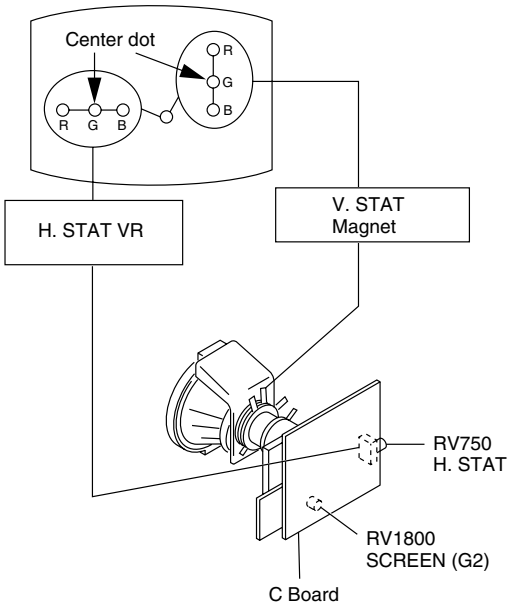



Fig. 2-5

## 2-2. CONVERGENCE

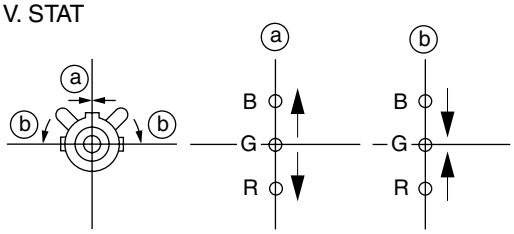
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal
- Pic mode: Soft



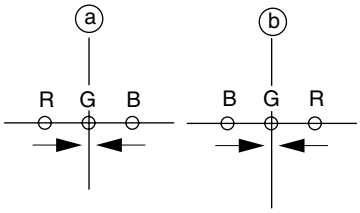

### (1) Horizontal and Vertical Static Convergence

1. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the centre of the screen.
2. (Moving horizontally), adjust the H.STAT VR control so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case,the H.STAT variable resistor and the V.STAT magnet influence each other so be sure to perform adjustments while tracking).
4. BMC (Hexapole) Magnet.
   If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.

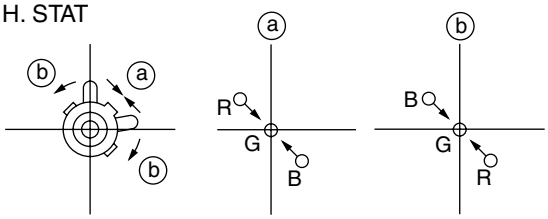
① V. STAT



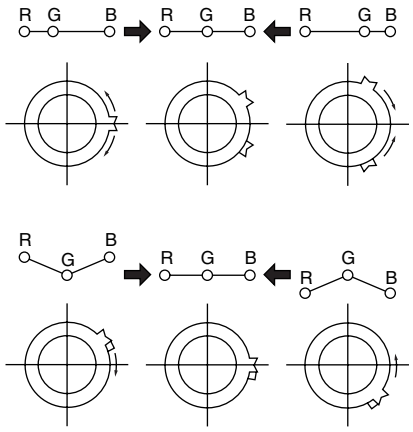

② H. STAT VR

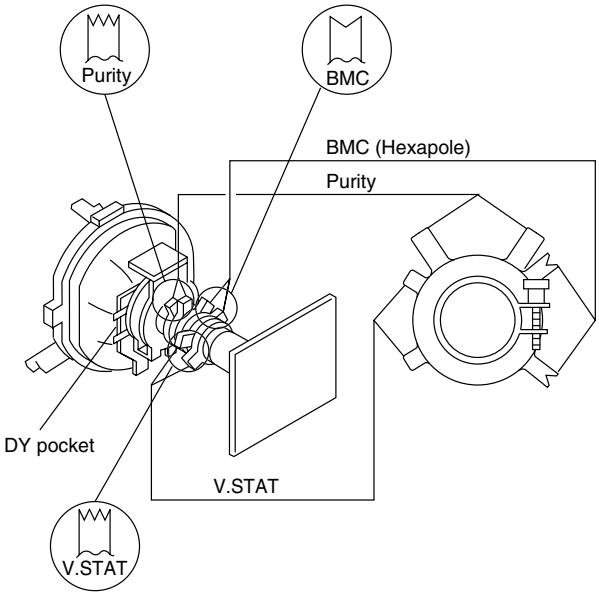



③ H. STAT

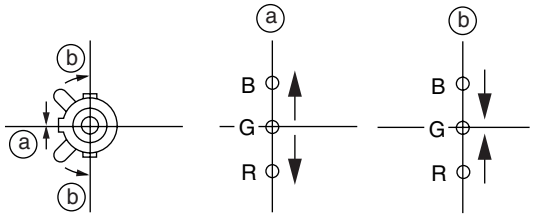



④ BMC (Hexapole) Magnet

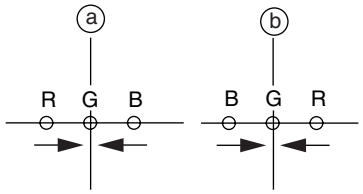


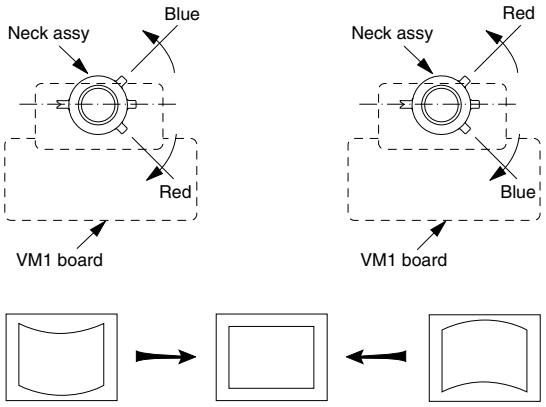

5. Operation of V.STAT magnet
   If the V.STAT magnet is moved in the "a" and "b" arrows, the red, green and blue dots moves as shown below.




6. Moved RV705 H.STAT.
   the red, green an blue dots move as shown below.

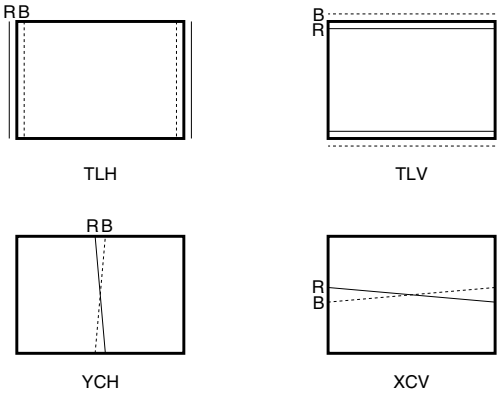


6. Y separation axis correction magnet adjustment.
   1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .
   2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.

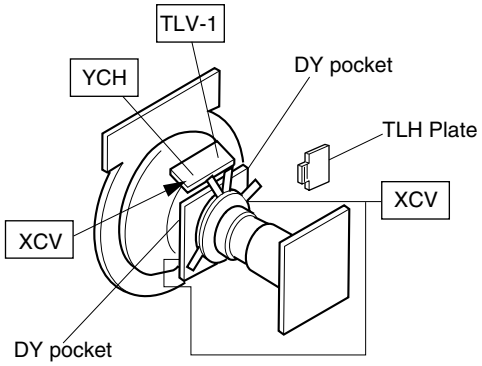



**(2) Dynamic Convergence Adjustment**

**Preparation:**
Before starting this adjustment, adjust the horizontal and the vertical static convergence.

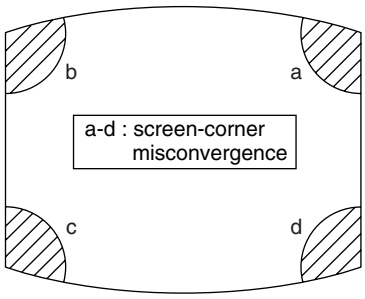



**ON DY:**

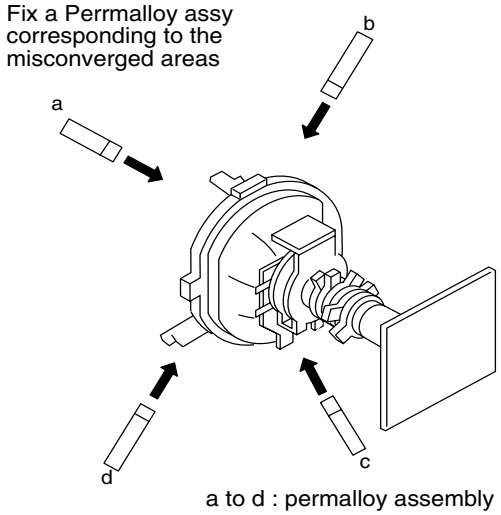



| | | | |
|---|---|---|---|
| TLV | Rotate | TLV-2 | VOL (29", 34") on DY |
| XCV | Rotate | XCV | Adj core on DY |
| YCH | Rotate | YCH | VOL on DY |
| TLH | Insert | TLH | Correction Plate to DY Pocket (Left or Right) |

**(3) Screen-corner Convergence**
If you are unable to adjust the corner convergence properly, this can be corrected with the use Piece A(90) Conv. Correct.




1. Affix the Piece A(90) Conv. Correct corresponding to the misconverged areas.



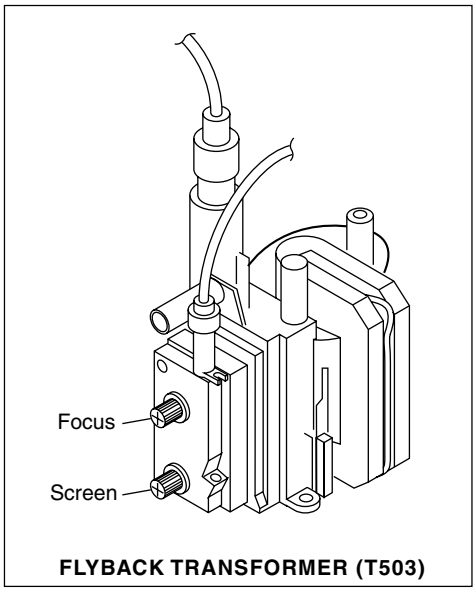

a to d : permalloy assembly

### 2-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.

(Except 34")

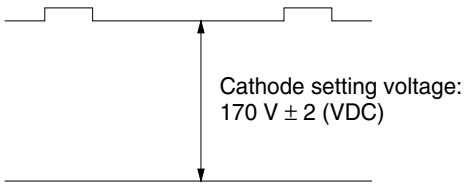
1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "DYNAMIC".
3. a) Adjust focus VR so that the center of screen becomes just focus(29", 34").
   b) Adjust focus VR so that the lion teeth becomes just focus(25").
4. Change the receiving signal to white pattern and blue back.
5. Confirm Magenta ring is not noticeable. In case magenta ring is obvious, adjust FOCUS VR to balance between MAGENTA RING and FOCUS.




**FLYBACK TRANSFORMER (T503)**

### 2-4. G2 (SCREEN) ADJUSTMENTS

1. Set the PICTURE to Normal.
2. Put the VIDEO input mode without signals
3. Connect R,G,B of the C board cathode to the oscilloscope.
4. Adjust cathode voltage to the value below.
5. Adjust G2 (screen) on the FBT until picture shows the point before cut off.




### 2-5. WHITE BALANCE ADJUSTMENT

1. Set to Service Mode (Refer Section 3-1: ADJUSTMENTS WITH COMMANDER).
2. Input white raster signal.
3. Set Picture to DYNAMIC.
   i. Set PICT 006 WTS to 00h (all models except AR2 series).
   ii. For AR2 set OPTB 006 OPB 6 to 00.
4. Select WHBL 002"RDRV" and adjust the value to 37
5. Select WHBL 003"GDRV" and 004 "BDRV"and adjust the data for the best white balance in highlight condition.
6. Adjust WHBL 000 "BKOR" and 001 "BKOG"and adjust the data for best white balance cut-off condition.
7. Write into the memory by pressing [MUTING] then [0].
8. Write offset data for other mode.
   After adjustment, please reset:
   i. OPTM 006 – OPB 6 to original data (AR2 series).
   ii. PICT 006 – WTS to original data (All models except AR2 series)

| Adjust | | Offset | | Offset |
|---|---|---|---|---|
| 18000 | → | 12363 | → | 9300 |
| BKOR | | –2 | | –3 |
| BKOG | | +1 | | +2 |
| RDRV | | 0 | | 0 |
| GDRV | | –3 | | –8 |
| BDRV | | –8 | | –18 |

### SUB BRIGHT ADJUSTMENT

1. Set to service mode.
2. Brightness set to 50%, Picture: Minimum.
3. Select WHBL SBRT with [1] and [4], and adjust 'SBRT' data with [3] and [6] so that the third stripe from right dimly lit.
4. Write into the memory by pressing [MUTING] then [0].
5. Models cut-off: 0 IRE (25" and 34")
   10 IRE (29")
   Slightly Glimmer: 10 IRE (25" and 34")
   20 IRE (29")

# SECTION 3
# CIRCUIT ADJUSTMENTS

## 3-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied remote commander RM-W104.

### a. ENTERING SERVICE MODE

With the unit on standby

→ DISPLAY → 5 → VOL (+) → POWER

This operation sequence puts the unit into service mode.
This screen display is:

| category | item no. in decimal | item name | service data in decimal | NVM NG | service command | field frequency | channel no./ video input name |
|---|---|---|---|---|---|---|---|
| GEOM | 006 | HSIZ | 031 | ■ | SERVICE | 60 | S VIDEO 1 |

| release ID | software version | service data in binary | reserved for factory | color system | power on time (decimal?) |
|---|---|---|---|---|---|
| SUS01 | 0.69U | 0001 1111 | FF FF | NTSC3 | 65535 |

| | Flash DCXO | Status Byte #1 SSD | Status Byte #2 SSD |
|---|---|---|---|
| 111 11 11 1 7 11 | FG | xy 111 000000 | 000000 |

VDSP_C Flag
CO_LOCKED
VDSP
Detected Stereo Type (Direct Value from CZ_ Stereo_Mode)

S : for Sony
A : Aiwa
U S : US/Latin/Taiwan
E U : Europe
G A : General Area
J P : Japan
0 1 : serial no. of the M/P release for each destination

111 Needed for Nicam DCXO aligment Purpose

xy Value of x = 0 - Unknown, 1 - BTSC, 2 - A2, 3 - NICAM, 4 - KOREAN, 5 - Japan, 6 - AV Stereo
Value of y = 0 - Mono, 1 - Stereo, 2 - Bilingual, 4 - SAP/Single

### b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press POWER button on the commander), then press POWER button again, hereupon it becomes TV mode.

### c. METHOD OF WRITE INTO MEMORY

1. Set to Service Mode.
2. Press 1 (UP) and 4 (DOWN), to select the adjustment item.
3. Change item by pressing 3, 6.
4. Press MUTING button to indicate WRITE on the screen.
5. Press 0 button to write into memory.

| | |
|---|---|
| 1, 4 | Select the adjustment item. |
| ↓ | |
| 3, 6 | Raise/lower the data value. |
| ↓ | |
| MUTING | Writes. |
| ↓ | |
| 0 | Executes the writing. |

### d. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm adjustments were made.

**e. OTHER FUNCTION VIA REMOTE COMMANDER**

| | |
|---|---|
| 7, 0 | All the data becomes the values in memory. |
| 8, 0 | All user control goes to the standard state. |
| Display, 0 | Service data initialization (Be sure not to use usually.) |
| 2, 5 | Select Device or Category (Up, Down) |

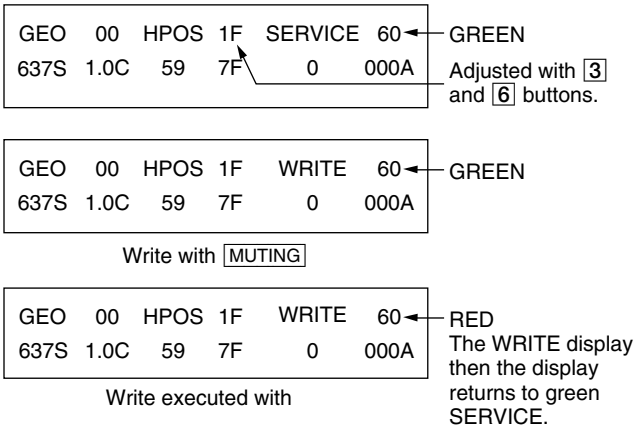
## 3-2. ADJUSTMENT METHOD

Item Number 000 HPOS

This explanation uses H POSITION as an example.

1. Select "000 HPOS" with the 1 and 4 buttons, or 2 and 5.
2. Raise/lower the data with the 3 and 6 buttons.
3. Select the optimum state. (The standard is IF for PAL reception.)
4. Write with the MUTING button. (The display changes to WRITE.)
5. Execute the writing with the 0 button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-


GEO 00 HPOS 1F SERVICE 60
637S 1.0C 59 7F 0 000A
GREEN
Adjusted with 3 and 6 buttons.
GEO 00 HPOS 1F WRITE 60
637S 1.0C 59 7F 0 000A
GREEN
Write with MUTING
GEO 00 HPOS 1F WRITE 60
637S 1.0C 59 7F 0 000A
RED
The WRITE display then the display returns to green SERVICE.
Write executed with

Use the same method for all Items. Use 1 and 4 to select the adjustment item, use 3 and 6 to adjust, write with MUTING, then execute the write with 0.

**Note** : 1. In WRITE, the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

## Adjustment Item Table

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | 50 | 60 | w50 | w60 |
| GEOM | 000 | HPOS | 031 | 063 | Horizontal Shift (HS) | 50/60/w50/w60 (+JPN RGB) | TV-Processor | | 31 | 31 | 31 | 31 |
| | 001 | HPAR | 031 | 063 | Horizontal Parallelogram | 50/60/w50/w60 | (8Ah) | | 31 | 31 | 31 | 31 |
| | 002 | HBOW | 031 | 063 | Horizontal Bow | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 003 | VLIN | 031 | 063 | Vertical Linearity | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 004 | VSCR | 031 | 063 | Vertical Scroll | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 005 | HSIZ | 031 | 063 | EW Width (EW) | 50/60/w50/w60 (+JPN RGB) | | | 31 | 31 | 31 | 31 |
| | 006 | EWPW | 031 | 063 | EW Parabola/Width (PW) | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 007 | UCOP | 017 | 063 | EW Upper Corner Parabola | 50/60/w50/w60 | | | 17 | 17 | 17 | 17 |
| | 008 | LCOP | 017 | 063 | EW Lower Corner Parabola | 50/60/w50/w60 | | | 17 | 17 | 17 | 17 |
| | 009 | EWTZ | 031 | 063 | EW Trapezium | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 010 | VSLP | 031 | 063 | Vertical Slope (VS) | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 011 | VSIZ | 015 | 063 | Vertical Amplitude | 50/60/w50/w60 | | | 15 | 15 | 15 | 15 |
| | 012 | SCOR | 014 | 063 | S-Correction (SC) | 50/60/w50/w60 | | | 14 | 14 | 14 | 14 |
| | 013 | VPOS | 031 | 063 | Vertical Shift (VSH) | 50/60/w50/w60 | | | 31 | 31 | 31 | 31 |
| | 014 | HBL | 000 | 001 | RGB Blanking Mode | 50/60/w50/w60 | | | 01 | 01 | 01 | 01 |
| | 015 | WBF | 007 | 015 | Timing of Wide Blanking (WBF) | 50/60/w50/w60 | | | 08 | 05 | 08 | 05 |
| | 016 | WBR | 007 | 015 | Timing of Wide Blanking (WBR) | 50/60/w50/w60 | | | 09 | 10 | 09 | 10 |
| | 017 | SBL | 000 | 001 | Service Blanking | none | | | | | | |
| | 018 | COPY | 000 | 001 | Copy the GEO data to all 50/60Hz NVM area | none | | | | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | Col Temp (HIGH other) | Col Temp (LOW other) | Col Temp (NORM other) | Col Temp (HIGH YUV) | Col Temp (LOW YUV) | Col Temp (NORMAL YUV) | Col Temp (HIGH RGB) | Col Temp (LOW RGB) | Col Temp (NORM RGB) | Others | RGB | YUV | Pic mode 0 | Pic mode 1 | Pic mode 2 | Pic mode 3 |
| WHBL | 000 | BKOR | 031 | 063 | Black Level Offset R (OFB=00),off set B (OFB=01) | col temp (HIGH/LOW/Normal)*(UV/RGB/Others) | TV-Processor | | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | | | | | | | |
| | 001 | BKOG | 031 | 063 | Black Level Offset G | col temp (HIGH/LOW/Normal)*(UV/RGB/Others) | (8Ah) | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | | | | | | | |
| | 002 | RDRV | 037 | 063 | White Point R | col temp (HIGH/LOW/Normal)*(UV/RGB/Others) | TV-Pro (8AH) | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | | | | | | | |
| | 003 | GDRV | 037 | 063 | White Point G | col temp (HIGH/LOW/Normal)*(UV/RGB/Others) | | | 45 | 42 | 37 | 45 | 42 | 37 | 45 | 42 | 37 | | | | | | | |
| | 004 | BDRV | 037 | 063 | White Point B | col temp (HIGH/LOW/Normal)*(UV/RGB/Others) | | | 48 | 40 | 30 | 48 | 40 | 30 | 48 | 40 | 30 | | | | | | | |
| | 005 | LPG | 000 | 001 | RGB Gain Preset | none | | 00 | | | | | | | | | | | | | | | | |
| | 006 | PGR | 031 | 127 | Preset Gain R (PGR) | none | | 50 | | | | | | | | | | | | | | | | |
| | 007 | PGG | 031 | 127 | Preset Gain G (PGG) | none | | 50 | | | | | | | | | | | | | | | | |
| | 008 | PGB | 031 | 127 | Preset Gain B (PGB) | none | | 50 | | | | | | | | | | | | | | | | |
| | 009 | GNOF | 000 | 015 | Preset Gain Offset | none | CCC loop | 10 | | | | | | | | | | | | | | | | |
| | 010 | SBRT | 031 | 063 | Sub-Brightness | Others/RGB/YUV | | | | | | | | | | | | 38 | 38 | 38 | | | | |
| | 011 | SBRO | 000 | 003 | Sub-Brightness Offset (Intelligent Pic) | none | | 00 | | | | | | | | | | | | | | | | |
| | 012 | EGL | 000 | 001 | Enable Gain Loop in CCC System | none | | 00 | | | | | | | | | | | | | | | | |
| | 013 | SGL | 000 | 003 | Selection of High Current in CCC System | none | | 00 | | | | | | | | | | | | | | | | |
| | 014 | AKB | 000 | 001 | Black Current Stabilization | none | | 00 | | | | | | | | | | | | | | | | |
| | 015 | CBS | 000 | 001 | Control Sequence of Beam Current Limiting | none | | 00 | | | | | | | | | | | | | | | | |
| | 016 | RGBB | 000 | 003 | RGB Blanking | none | | 00 | | | | | | | | | | | | | | | | |
| | 017 | BLBG | 000 | 001 | Blanking of Blue & Green Output | none | | 00 | | | | | | | | | | | | | | | | |
| | 018 | OFB | 000 | 001 | Black Level Offset Blue | none | | 01 | | | | | | | | | | | | | | | | |
| | 019 | NSBR | 000 | 015 | Non Standard Brightness Offset | none | | 00 | | | | | | | | | | | | | | | | |
| | 020 | WBP | 000 | 003 | Color Temp Setting (0:High, 1:Normal, 2,3:Low) | Picture Mode | | | | | | | | | | | | | | | 00 | 01 | 02 | 01 |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | YUV | 50pal (TV) | 50pal (Video) | 50secam (TV) | 50secam (Video) | 60TV | 60Video | 50YUV | 60YUV | 50RGB | 60RGB | Pic mode 0 | Pic mode 1 | Pic mode 2 | Pic mode 3 | Dynamic*Eco std (Jpn) | Dynamic*Eco much (Jpn) | Standard*Eco std (Jpn) | Standard*Eco much (Jpn) | Eco std (Jpn) | Eco much (Jpn) | TV | Video | TV Wide | Video Wide | AVM (Jpn) | AV Wide (Jpn) |
| SADJ | 000 | PMAX | 063 | 063 | Picture Maximum | (TV / Video)*(Normal / Wide) / <Normal / Wide> (+JPN RGB) | TV-Processor | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 001 | SHUE | 007 | 015 | Sub-Hue | TV / Video | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 002 | SSHP | 015 | 063 | Sub-Sharpness | TV / Video / YUV (+JPN RGB) | | | 33 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 003 | SSHO | 000 | 003 | Sub-Sharpness Offset (Intelligent Pic) | none | | 03 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 004 | SCOL | 031 | 063 | Sub-Color | 50pal(tv)/50pal(video)/50secam(tv)/50secam(video)/ 60TV/60video/50YUV/60YUV/50RGB/60RGB | | | | 29 | 30 | 29 | 30 | 29 | 33 | 29 | 33 | 00 | 00 | | | | | | | | | | | | | | | | |
| | 005 | SCOO | 000 | 003 | Sub-Color Offset (Intelligent Pic) | none | | 01 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 006 | PIC | 031 | 127 | Picture Control [GA:0-100(valid), >100(invalid); Others:0-63(valid); ignore bit 6(invalid)] | Picture Model(GA: Personal = User Reset Data) | | | | | | | | | | | | | | 100 | 90 | 75 | 100 | | | | | | | | | | | | |
| | 007 | COL | 031 | 127 | Color Control [GA:0-100(valid), >100(invalid); Others:0-63(valid); ignore bit 6(invalid)] | Picture Model(GA: Personal = User Reset Data) | | | | | | | | | | | | | | 57 | 50 | 45 | 50 | | | | | | | | | | | | |
| | 008 | BRT | 031 | 127 | Brightness Control [GA:0-100(valid), >100(invalid); Others:0-63(valid); ignore bit 6(invalid)] | Picture Model(GA: Personal = User Reset Data) | | | | | | | | | | | | | | 48 | 50 | 50 | 50 | | | | | | | | | | | | |
| | 009 | HUE | 031 | 127 | Hue Control [GA:0-100(valid), >100(invalid); Others:0-63(valid); ignore bit 6(invalid)] | Picture Model(GA: Personal = User Reset Data) | | | | | | | | | | | | | | 50 | 50 | 50 | 50 | | | | | | | | | | | | |
| | 010 | SHP | 031 | 127 | Sharpness Control [GA:0-100(valid), >100(invalid); Others:0-63(valid); ignore bit 6(invalid)] | Picture Model(GA: Personal = User Reset Data) | | | | | | | | | | | | | | 60 | 55 | 45 | 50 | | | | | | | | | | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | Others | RGB | YUV | PAL(TV) | NTSC(TV) | SECAM(TV) | PAL(Video) | NTSC(Video) | SECAM(Video) | S-INPUT | SECAM | NTSC | TV |
| YC | 000 | PFRQ | 000 | 003 | Peaking Center Frequency and Delay | | TV-Processor | 00 | | | | | | | | | | | | | |
| | 001 | RPA | #### | 003 | Ratio Pre & Over Shoot | TV/other | | | 02 | | | | | | | | | | | | 01 |
| | 002 | RPO | 002 | 003 | Ratio of Positive & Negative Peaks | TV/other | | | 02 | | | | | | | | | | | | |
| | 003 | YDLY | 012 | 015 | Y-Delay | (PAL/NTSC/SECAM)*(TV/VIDEO)+YUV/S-INPUT | | | | | 10 | 10 | 10 | 06 | 11 | 09 | 06 | 10 | | | |
| | 004 | CMAT | 000 | 003 | PAL-SECAM or NTSC (Japan/USA) Matrix | (JPN RGB) | | 00 | | | | | | | | | | | | | |
| | 005 | ACL | 001 | 001 | Automatic Color Limiting | | | 01 | | | | | | | | | | | | | |
| | 006 | CB | 000 | 001 | Chroma Bandpass Center Frequency | valid only with TV (*Video:0 fix) | | 00 | | | | | | | | | | | | | |
| | 007 | SBO | 001 | 003 | SECAM Black Offset | | | 01 | | | | | | | | | | | | | |
| | 008 | CHSE | 001 | 003 | PAL/NTSC Ident Sensitivity | | | 03 | | | | | | | | | | | | | |
| | 009 | CLO | 000 | 001 | Center Frequency of Cloche(Bell) Filter | | | 00 | | | | | | | | | | | | | |
| | 010 | CTRP | 000 | 001 | Chroma Trap Mode | SECAM/others | | | 00 | | | | | | | | | | 01 | | |
| | 011 | BPS | 000 | 001 | Bypass of Chroma Base-band Delay Line | NTSC/others | | | 00 | | | | | | | | | | | 01 | |
| | 012 | FCO | 000 | 001 | Forced Color On | | | 00 | | | | | | | | | | | | | |
| | 013 | TINT | 031 | 063 | Base-Band Tint Control | YUV/others | | | 32 | | 32 | | | | | | | | | | |
| | 014 | TUV | 000 | 001 | Tint Control on UV Signals | | | 00 | | | | | | | | | | | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | 50 | 60 | Others | YUV | TV | Video | Teletext | TV-ip | No signal |
| SYNC | 000 | SYS | 000 | 001 | Synchronization on YSYNC Input | | | 00 | | | | | | | | | |
| | 001 | FO | 000 | 003 | Phase 1 Time Constant | TV IP ON/TV IP OFF/Video/Teletext/Auto Tuning or No signal(RF) | | | | | | | 03 | 03 | 01 | 00 | 00 |
| | 002 | VID | 000 | 001 | Video Ident Mode | 50/60 | | | 00 | | | | | | | | |
| | 003 | FSL | 000 | 001 | Forced Slicing Level for Vertical Sync | | | 00 | | | | | | | | | |
| | 004 | SSL | 000 | 001 | Slicing Level Sync Separator | 50/60 | | | 00 | | | | | | | | |
| | 005 | SVID | 001 | 007 | Source Selection for Video Identification | YUV/Others | | | | | 00 | 00 | | | | | |
| | 006 | FORF | 000 | 003 | Forced Field Frequency | | | 03 | | | | | | | | | |
| | 007 | MVK | 000 | 001 | Macro Vision Keying | | | 01 | | | | | | | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | Others | RGB | Live | TV (Dyn) | TV (Others) | Video (Dyn) | Video (Others) | ColorTemp (HIGH) | ColorTemp (Others) | Color Temp(LOW) | Color Temp (NORMAL) |
| PICT | 000 | CADL | 007 | 015 | Cathode Drive Level | | | 05 | | | | | | | | | | | |
| | 001 | CFA | 000 | 003 | Comb Filter Mode | | | 00 | | | | | | | | | | | |
| | 002 | SOC | 002 | 003 | Soft Clipping Level | | (8Ah) | 02 | | | | | | | | | | | |
| | 003 | PWL | 001 | 001 | Peak White Limiting Switch | | | 01 | | | | | | | | | | | |
| | 004 | WHTL | 006 | 015 | Peak White Limiting | | | 04 | | | | | | | | | | | |
| | 005 | GAM | 001 | 001 | Gamma | | | 01 | | | | | | | | | | | |
| | 006 | WTS | 001 | 003 | Gamma Control and White Stretch | Live/Others | | | 01 | | 02 | | | | | | | | |
| | 007 | TFR | 000 | 001 | DC Transfer Ratio of Luminance Signal | Live/Others (+JPN RGB) | | | 01 | | 01 | | | | | | | | |
| | 008 | COR | 003 | 003 | Coring | (TV/Video)*(Dyna/others) | | | | | | 01 | 02 | 00 | 01 | | | | |
| | 009 | CORO | 000 | 001 | Coring Offset (Intelligent Pic) | | | 01 | | | | | | | | | | | |
| | 010 | BKS | 003 | 003 | Black Stretch | RGB/others | | | 02 | 02 | | | | | | | | | |
| | 011 | AAS | 001 | 001 | Black Area to Switch off the Black Stretch | | | 01 | | | | | | | | | | | |
| | 012 | DSK | 000 | 001 | Dynamic Skin Control | | | 00 | | | | | | | | | | | |
| | 013 | BLS | 000 | 001 | Blue Stretch | col temp (HIGH/OTHERS) | | | | | | | | | | 00 | 00 | | |
| | 014 | NBLS | 000 | 001 | Operation Blue Stretch Circuit | | | 00 | | | | | | | | | | | |
| | 015 | NRR | 000 | 001 | Non Red Reduction | col temp (HIGH/LOW/NORMAL) | | | | | | | | | | 01 | | 01 | 01 |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | YUV | TV | Video |
| SW | 000 | CV2 | 000 | 001 | CVBS2 Input Signal Selection | | | 00 | | | |
| | 001 | SVO | 001 | 003 | Function of IFVO/SVO/CVBSI Pin @ 48 | TV/Video/YUV | | | 02 | 01 | 01 |
| | 002 | DFL | 000 | 001 | Flash Protection | | | 00 | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | |
| VIF | 000 | OIFD | 036 | 063 | Offset IF Demodulator | | TV-Processor | 36 |
| | 001 | AGCT | 031 | 063 | AGC Take-over | | (8Ah) | 24 |
| | 002 | STM | 000 | 001 | Search Tuning Mode | | | 01 |
| | 003 | GD | 000 | 001 | Group Delay on CVBS1 Signal | | | 00 |
| | 004 | AGCS | 001 | 003 | IF AGC Speed | | | 00 |
| | 005 | FFI | 000 | 001 | Fast Filter IF PLL | | | 01 |
| | 006 | OAMP | 003 | 003 | Video Output Signal Amplitude (only L & L'System) | | | 03 |
| | 007 | VAI | 000 | 001 | System I Output Signal Amplitude Correction (only L & L'System) | | | 00 |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | NVM Address / Initial Value (Detailed) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | Common | Pic mode 0 | Pic mode 1 | Pic mode 2 | Pic mode 3 |
| VM | 000 | RGBD | 003 | 007 | Delayof RGB Output to VM Output | none | TV-Processor | 05 | | | | |
| | 001 | VMA | 003 | 003 | Amplitude of VM Output | none | (8Ah) | 03 | | | | |
| | 002 | VMAP | 002 | 003 | VM setting (0:High, 1:Low, 2,3:OFF) | Picture Mode | | | 00 | 00 | 01 | 00 |
| | 003 | VMMO | 003 | 003 | VM Mode | | | 01 | | | | |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | |
| SDEM | 000 | FMWS | 000 | 003 | Window Selection for FM Demodulator | | TV-Processor | 02 |
| | 001 | QSS | 001 | 001 | Quasi Split Sound (QSS) Amplifier Mode (except GA Model) | | (8Ah) | ** |
| | 002 | BPB | 000 | 001 | Bypass of Sound Bandpass Filter | | | 00 |
| | 003 | AMLO | 000 | 001 | Audio Output Signal for AM Sound | | | 00 |
| | 004 | HPVC | 000 | 001 | Head Phone Volume Control | | | 00 |

Item remarks "**" please refer page 25.

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | (Slave Address) | |
| TXT | 000 | TXV | 039 | 063 | Teletext Vertical Position for Philips | | Text Decoder | 39 |
| | 001 | THD | 005 | 127 | Teletext H-sync Active Edge Shift | | (60h) | 05 |
| | 002 | TBR | 004 | 015 | Teletext RGB Brightness | | | 15 |
| | 003 | LCB | 001 | 011 | Teletext LCB 0: disable 1: enable (setting for FASTEX) | | | 00 |

| TVJ | Functionality | | Init. | Range | DATA | Function | Table & Note | Device Name (Slave Address) | NVM Address / Initial Value (Detailed) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | | Common | TV-L(Euro) | TV | Video | Off | SRS/WOW | Trusurround | Istereo | Imono |
| SDSP | 000 | AVM | 002 | 007 | FIX | AVL Mode | | SSD | 02 | | | | | | | | |
| | 001 | AVV | 005 | 015 | FIX | AVL Reference Level | | (B0h) | 09 | | | | | | | | |
| | 002 | BBL | 000 | 015 | FIX | BBE Contour | | | ** | | | | | | | | |
| | 003 | BBH | 000 | 015 | FIX | BBE Process | | | ** | | | | | | | | |
| | 004 | BBLW | 000 | 015 | FIX | BBE Contour Offset | | | ** | | | | | | | | |
| | 005 | SVOF | 000 | 015 | FIX | Surround /Effect Mode Volume Offset | Off(SRS/WOW)/Trusurround/Istereo/Imono | | | | | | 00 | 07 | 00 | 02 | 00 |
| | 006 | IVOF | 000 | 007 | FIX | Master Volume Positive Offset | | | 06 | | | | | | | | |
| | 007 | EVOF | 000 | 007 | FIX | Master Volume Negative Offset | | | 06 | | | | | | | | |
| | 008 | LAD | 000 | 031 | FIX | Decoder Level Adjust | | | 05 | | | | | | | | |
| | 009 | LAM | 000 | 031 | FIX | Mono Level Adjust | | | 05 | | | | | | | | |
| | 010 | LAN | 000 | 031 | FIX | Nicam Level Adjust | | | 22 | | | | | | | | |
| | 011 | LAS | 000 | 031 | FIX | SAP Level Adjust | | | 08 | | | | | | | | |
| | 012 | LAA | 000 | 031 | FIX | ADC Level Adjust | Tv/Video(Non Euro)I TV-L/TV-non L/Video | | | 00 | 00 | 00 | | | | | |
| | 013 | SEF | 003 | 007 | FIX | Incredible Mono/Stereo Effect | Istereo/Imono | | | | | | | | | 05 | 03 |
| | 014 | A1L | 000 | 255 | FIX | AUX1 Volume Left | | | 00 | | | | | | | | |
| | 015 | A1R | 000 | 255 | FIX | AUX1 Volume Right | | | 00 | | | | | | | | |
| | 016 | BAS | 008 | 015 | FIX | Main Bass Offset | | | ** | | | | | | | | |
| | 017 | TRE | 008 | 015 | FIX | Main Treble Offset | | | ** | | | | | | | | |
| | 018 | EQ1 | 008 | 015 | FIX | Equalizer Main Channel Band (100 Hz) Offset | | | ** | | | | | | | | |
| | 019 | EQ2 | 008 | 015 | FIX | Equalizer Main Channel Band (300 Hz) Offset | | | ** | | | | | | | | |
| | 020 | EQ3 | 008 | 015 | FIX | Equalizer Main Channel Band (1000 Hz) Offset | | | ** | | | | | | | | |
| | 021 | EQ4 | 008 | 015 | FIX | Equalizer Main Channel Band (3000 Hz) Offset | | | ** | | | | | | | | |
| | 022 | EQ5 | 008 | 015 | FIX | Equalizer Main Channel Band (8000 Hz) Offset | | | ** | | | | | | | | |
| | 023 | BFCT | 005 | 007 | FIX | DBE, DUB and BBE Control | | | ** | | | | | | | | |
| | 024 | SCEN | 001 | 015 | FIX | SRS3D Center Control | | | 04 | | | | | | | | |
| | 025 | SSPA | 000 | 015 | FIX | SRS3D Space Control | | | 01 | | | | | | | | |
| | 026 | BBHW | 000 | 015 | FIX | BBE process offset in WOW mode | | | ** | | | | | | | | |
| | 027 | STRE | 002 | 007 | FIX | Treble Offset for surround mode | | | ** | | | | | | | | |
| | 028 | BBHT | 000 | 015 | FIX | BBE Offset in TV mode | | | 00 | | | | | | | | |
| | 029 | DWA | 000 | 000 | FIX | DWA | | | 00 | | | | | | | | |
| | 030 | TTRE | 002 | 007 | FIX | Treble Offset in TV Mode | | | 03 | | | | | | | | |

**NOTE**

• Item remarks ** please refer to page 25.

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name (Slave Address) | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | |
| SDEC | 000 | MPTU | 003 | 015 | Upper Threshold for MPX pilot detection (BTSC) | | SSD | 02 |
| | 001 | MPTL | 009 | 015 | Lower Threshold for MPX pilot detection (BTSC) | | (B0h) | 05 |
| | 002 | SPTU | 003 | 015 | Upper Threshold for SAP carrier detection | | | 08 |
| | 003 | SPTL | 006 | 015 | Lower Threshold for SAP carrier detection | | | 15 |
| | 004 | C1TH | 000 | 031 | Normal Threshold for detection of SC1 | | | 00 |
| | 005 | C1AP | 000 | 031 | Auto Program Threshold for detection of SC1 | | | 00 |
| | 006 | SPTH | 000 | 031 | Noise Threshold for automute of SAP | | | 00 |
| | 007 | SPHY | 004 | 015 | Hysteresis size for automute of SAP | | | 03 |
| | 008 | FMTH | 000 | 031 | Noise Threshold for automute of SC2 in FM A2 standard | | | 18 |
| | 009 | FMHY | 004 | 015 | Hysteresis size for automute of SC2 in FM A2 standard | | | 07 |
| | 010 | BTTH | 000 | 031 | Noise Threshold for automute of BTSC stereo carrier | | | 00 |
| | 011 | BTHY | 004 | 015 | Hysteresis size for automute of BTSC stereo | | | 03 |
| | 012 | EJTH | 000 | 031 | Noise Threshold for automute of EIAJ FM subcarrier | | | 00 |
| | 013 | EJHY | 004 | 015 | Hysteresis size for automute of EIAJ FM subcarrier | | | 04 |
| | 014 | ONLY | 000 | 001 | Reproduce only related NICAM on DEC output | | | 00 |
| | 015 | EXAM | 000 | 001 | Fall back source in case of automute in standard L (DDEP) | | | 00 |
| | 016 | NIMT | 000 | 001 | NICAM auto mute function depend on bit error rate (DDEP) | | | 00 |
| | 017 | NILE | 100 | 255 | NICAM lower error limit (DDEP) | | | 50 |
| | 018 | NIUE | 200 | 255 | NICAM upper error limit (DDEP) | | | 200 |
| | 019 | EPMD | 001 | 003 | DEMDEC Easy Programming (DDEP) | | | ** |
| | 020 | STDS | 019 | 031 | Bits multiplexed for ASD and SSS modes | | | ** |
| | 021 | OVMA | 001 | 001 | FM overmodulation adaption | | | 00 |
| | 022 | FLBW | 000 | 003 | FM/AM demodulator filter bandwidth | | | 03 |
| | 023 | IDMD | 000 | 003 | FM ident speed in SSS mode | | | 00 |
| | 024 | FPAL | 000 | 001 | Line fequency for BTSC decoding | | | 00 |
| | 025 | OVMT | 001 | 002 | Overmodulation level threshold relative to nominal | | | 03 |
| | 026 | DCXI | 000 | 001 | NICAM DCXO Scaling Control Inverter | | | ** |
| | 027 | DCXG | 000 | 007 | NICAM DCXO Scaling Control Gain | | | ** |
| | 028 | DCLL | 011 | 015 | NICAM DCXO Scaling Control Limit (L) | | | 00 |
| | 029 | DCLH | 000 | 031 | NICAM DCXO Scaling Control Limit (H) | | | ** |
| | 030 | IDEU | 001 | 003 | IDMOD setting for European A2 STD | | | 00 |
| | 031 | IDKR | 001 | 003 | IDMOD setting for Korean M STD | | | 00 |
| | 032 | IDJP | 001 | 003 | IDMOD setting for EIAJ STD | | | 00 |

**NOTE**

• Item remarks ** please refer to page 25.

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name (Slave Address) | NVM Address / Initial Value (Detailed) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | Common | 50 | 60 |
| OPTM | 000 | ASHT | 006 | 007 | Auto shut off timer (data * 5 min) | | | 00 | | |
| | 001 | OSDB | 000 | 015 | OSD brightness | | MMR/Micro 60h | 15 | | |
| | 002 | OSDH | 005 | 015 | OSD Horizontal Position | | MMR/Micro 60h | 06 | | |
| | 003 | OSDV | 037 | 063 | OSD Vertical Position | 50 / 60 | MMR/Micro 60h | | 45 | 30 |
| | 004 | MUTE | 000 | 001 | No Signal Mute Switch (1=enabled) | | | 00 | | |
| | 005 | RFUL | 015 | 015 | RF Signal Change Counter after Unlocked (Disable when 0fh) | | | 04 | | |
| | 006 | RFLK | 015 | 015 | RF Signal Change Counter after Locked (Disable when 0fh) | | | 00 | | |
| | 007 | AVUL | 015 | 015 | AV Signal Change Counter after Unlocked (Disable when 0Fh) | | | 15 | | |
| | 008 | AVLK | 015 | 015 | AV Signal Change Counter after Locked (Disable when 0Fh) | | | 15 | | |
| | 009 | LANG | 000 | 003 | OSD language shipping condition | | | ** | | |
| | 010 | HTXT | 000 | 001 | Sync seperator sw | | TV-Processor(8A) | 00 | | |
| | 011 | CMSS | 000 | 001 | Sync sw | | TV-Processor(8A) | 01 | | |
| | 012 | DCXO | 060 | 295 | DCXO Value | | SFR/Micro 60h/DSP | ** | | |
| | 013 | EXBL | 000 | 015 | Extended Blanking Timer to Eliminate White Noise | | | 08 | | |
| | 014 | TSYS | 000 | 003 | Memorize TV Sys in NVM at Test Reset [0:B/G, 1:I, 2:M, 3:D/K] (GA Model) | | | ** | | |
| | 015 | TVOU | 001 | 001 | TV out mute condition 0:Always mute off, 1:Mute without signal (EURO model) | | | 00 | | |
| | 016 | LBL | 001 | 001 | Brightness Reducting At no Signal Condition. | | | 01 | | |
| | 017 | HPRO | 001 | 001 | Hpara Offset for Picture Rotation. | | | 05 | | |

**NOTE**

• Item remarks ** please refer to page 25.



| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name (Slave Address) | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | |
| OPUS | 000 | SOFF | 000 | 001 | Stay off(0:follow last memory with AC on, 1:standby with AC on) | | | 00 |
| | 001 | CCBR | 000 | 015 | CC OSD Brightness | | MMR/Micro 60h | 00 |
| | 002 | SPCH | 001 | 127 | Channel Number after Shipping Condition | | | 00 |
| | 003 | SPCA | 001 | 001 | Cable Selection after Shipping Condition (1 = Cable On) | | | 00 |
| | 004 | CTRY | 000 | 001 | VCHIP Country shipping selection | | | 00 |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name (Slave Address) | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | |
| OPAW | 000 | BEMX | 040 | 084 | Maximum volume of "Wake Up Timer" Beeper (0 to 84) | | SSD (BOh) | 00 |
| | 001 | BRAT | 006 | 010 | Beep to Master Volume ratio (0 to 10) (0% to 100%) | | SSD (BOh) | 00 |
| | 002 | BDUR | 002 | 030 | Beeper duration (in 50ms step) | | SSD (BOh) | 00 |
| | 003 | BFEQ | 003 | 007 | Beeper frequency (0 - 7) | | SSD (BOh) | 00 |
| | 004 | TCRT | 001 | 001 | Trinitron CRT model | none | TV-Processor(8A) | 00 |

| TVJ | Functionality | | Init. | Range | Function | Table & Note | Device Name (Slave Address) | Common |
|---|---|---|---|---|---|---|---|---|
| Category | No. | Name | Dec | Dec | | | | |
| OPTB | 000 | IALL | 000 | 001 | Standard Write Switch (not memorized in NVM) | | | 00 |
| | 001 | OPB1 | 000 | 255 | Option 1 (System related) | | | Please refer to |
| | 002 | OPB2 | 000 | 255 | Option 2 (Video Signal related) | | | option bit |
| | 003 | OPB3 | 000 | 255 | Option 3 (Stereo Decoding related) | | | table page |
| | 004 | OPB4 | 000 | 255 | Option 4 (Miscellaneous) | | | 26-28 |
| | 005 | OPB5 | 000 | 255 | Option 5 (Miscellaneous) | | | |
| | 006 | OPB6 | 000 | 255 | Option 6 (OSD Language related) | | | |

**NOTE**

- shaded items are no data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

NOTE: This data with remark **

| Category | No | Name | 5 + 5<br>AR25M90B |
|---|---|---|---|
| SDSP | 002 | BBL | 00 |
| | 003 | BBH | 00 |
| | 004 | BBLW | 06 |
| | 016 | BAS | 12 |
| | 017 | TRE | 15 |
| | 018 | EQ1 | 11 |
| | 019 | EQ2 | 04 |
| | 020 | EQ3 | 10 |
| | 021 | EQ4 | 10 |
| | 022 | EQ5 | 09 |
| | 023 | BFCT | 00 |
| | 026 | BBHW | 00 |
| | 027 | STRE | 01 |

NOTE: This data with remark **

| Category | No | Name | Stereo | AV Stereo |
|---|---|---|---|---|
| SDEC | 019 | EPMD | 02 | 01 |
| | 020 | STDS | 31 | 13 |
| | 026 | DCXI | 01 | 00 |
| | 027 | DCXG | 03 | 00 |
| | 026 | DCLH | 06 | 00 |

NOTE: This data with remark **

| Category | No | Name | Other Country |
|---|---|---|---|
| OPTM | 009 | LANG | 00 |

NOTE: This data with remark **

| Category | No | Name | Stereo | AV Stereo |
|---|---|---|---|---|
| OPTM | 012 | DCXO | 50 | 60 |

NOTE: This data with remark **

| Category | No | Name | HK |
|---|---|---|---|
| OPTM | 014 | TSYS | 01 |

NOTE: This data with remark **

| Category | No | Name | Stereo | AV Stereo |
|---|---|---|---|---|
| SDEM | 001 | QSS | 01 | 00 |

**ITEM INFORMATION**
**No. OPB1**

| Item | Speed Search | | M/N | L' | M | B/G | I | D/K | DEC |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 79 |

| | | |
|---|---|---|
| SPEED SEARCH (Time of speed search) | | 00 = disabled (original cycle speed)<br>01 = 4 time speed from the original<br>10 = 6 time speed from the original<br>11 = 8 time speed from the original |
| TV System Selection | | 0 = disabled, 1 = enabled |

**No. OPB2**

| Item | D1 | AV Multi/ PAM(GA) | Component | Composite (SCART) | | SECAM | Color Decording | | DEC |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 60 |

| | | |
|---|---|---|
| D1 | (D1 Terminal) | 0 = not available, 1 = available |
| AV Multi/ | (AV Multi Terminal) - JP | 0 = not available, 1 = available |
| PAM | Portable Audio Mode - GA | 0 = not available, 1 = available |
| Component | (Component [YCbCr] Terminals) | 0 = not available, 1 = available |
| Composite | (No. of Composite Terminals) | 00 = no composite terminal<br>(Euro:no Scart) BX1L:No Video |
| (SCART) | (No. of SCART Terminals) | 01 = 1 composite terminal<br>(Euro:1 Scart) BX1L:2 Video in<br>10 = 2 composite terminals<br>(Euro:2 Scart) BX1L:3 Video in<br>11 = 3 composite terminals<br>(Euro:no terminal) BX1L:4 Video in |
| SECAM | (SECAM Color System) | 0 = not available, 1 = available |
| Color decoding | (Color Crystal Selection) | 00 = PAL/NTSC/SECAM (Multi)<br>01 = NTSC (3.58MHz)<br>10 = PAL/NTSC/SECAM (4.43MHz)<br>11 = PAL/NTSC (Tri-Norma) |

**No. OPB3**

| Item | HDEV | NICAM ST | NICAM BI | A2 ST | Thai Bilingual | JP/US ST | Korean ST | MONO | DEC |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 112 |

| | | |
|---|---|---|
| HDEV | (High Deviation Mode) | 0 = disabled, 1 = enabled |
| NICAM ST | (NICAM Stereo) | 0 = disabled, 1 = enabled |
| NICAM BI | (NICAM Stereo) | 0 = disabled, 1 = enabled |
| A2 ST/BI | (A2 [West German] Stereo/Bilingual) | 0 = disabled, 1 = enabled |
| Thai Bilingual | (A2 [Thai] Bilingual) or Force SAP if JP/US ST is act | 0 = disabled, 1 = enabled |
| JP/US ST | (JP/US Stereo) | 0 = disabled, 1 = enabled |
| Korean ST | (Korean Stereo) | 0 = disabled, 1 = enabled |
| MONO | (Monaural Model) | 0 = Stereo (SSD) Model<br>1 = Monuaral Model |

**No. OPB4**

| Item | Firmware/ SMAT | 1 spk Models | VM | Equalizer | Surround | V-Chip | Top | Text | Dec |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 176 |

| | | |
|---|---|---|
| Firmware | (SSD Firmware Downloading) | 0 = disabled, 1 = enabled |
| SMAT | Surround Matrix | 0 = Active, 1 = Passive |
| 1 spk Models | 1 Speaker Models | 0 = 2 or 3 Speaker Models,<br>1 = 1 speaker Models |
| VM | (Velocity Modulation) | 0 = disabled, 1 = enabled |
| Equalizer | (5-band Equalizer Model) | 0 = Bass/Treble Model, 1 = Equalizer Model |
| Surround | (US/GA Surround Selection) | 0 = Off/Simulated/Surround<br>1 = Off/Simulated/WOW/TruSurround (US)<br>1 = Off/Simulated/SRS (3D) Surround (GA) |
| V-Chip | (V-Chip Model) | 0 = Channel Block Model (no rating)<br>1 = Parental Control Model (rating) |
| TOP | (Forced TOP) | 0 = Auto Mode (TOP/FLOF), 1 = Forced TOP |
| TEXT | (Teletext Model) | 0 = Non-Teletext Model, 1 = Teletext Model |

**No. OPB5**

| Item | Full Surround | No Surround | Forced 60 | ASD | Tilt | IP Plus | IP | Wide | Dec |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 31 |

| | | |
|---|---|---|
| Full Surround | (Full Surround option) | 0 = Normal Surround Model<br>1 = Full Surround Model<br>(Off/simulated/surround/<br>SRS/WOW/TruSurround) |
| No Surround | (No Surround Model) | 0 = Surround Model, 1 = Non-Surround Model |
| Forced 60 | (Forced 60Hz in no signal) | 0 = 50Hz, 1 = 60Hz |
| ASD | (Automatic Standard Detection) | 0 = disabled, 1 = enabled |
| Tilt | (Tilt Correction/PIC Rotation) | 0 = disabled, 1 = enabled |
| IP Plus | (Intelligent Picture Plus) | 0 = disabled, 1 = enabled |
| IP | (Intelligent Picture) | 0 = disabled, 1 = enabled |
| Wide | (Wide Mode/V-Compressed) | 0 = disabled, 1 = enabled |

**No. OPB6**

| Item | GA US | Latin | Feature 2 | Feature 1 | OSD Language Selection | | | | Dec |
|---|---|---|---|---|---|---|---|---|---|
| **KV-AR25M90B** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 |

| | | |
|---|---|---|
| GA US | (US Model Destination) | 0 = US/CANADA/Latin<br>1 = Taiwan/Korea/Philippine<br>(Wake-up timer enable)<br>(GA Surround Spec:OFF,<br>SIMULATED, SRS) |
| Latin | (US Model Latin Destination) | 0 = US/CANADA (No Volume Figure Display)<br>1 = Latin (Volume Figure Display) |
| Feature 2 | (Temporary for BX1L) | 0 = Comb Not available<br>1 = Comb available |
| Feature 1 | (Temporary for BX1L) | 0 = PiP Not Available<br>1 = PiP available |

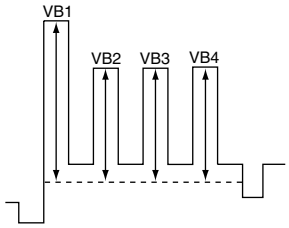
OSD Language Selection
(English always available except JP)

| | |
|---|---|
| US | 01xx = French<br>0x1x = Spanish<br>0xx1 = Portuguese |
| US<br>(GA NTSC) | 1x1x = Complicated Chinese<br>1xx1 = Korean |
| GA | 1xxx = Simplified Chinese<br>x1xx = Arabic<br>xx1x = Thai<br>xxx1 = Vietnamese |
| EU | 0000 = Destination ADE<br>0001 = Destination BL<br>0010 = Destination KR<br>0011 = Destination U |

## 3-3. PICTURE QUALITY ADJUSTMENT

### SUB COLOR ADJUSTMENT

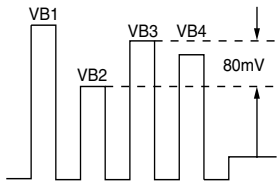
1. Select Video.
2. Input PAL 100% Color Bar.
3. Set to following condition:
   PICTURE 100%,COLOR 50%, BRIGHTNESS 50%, HUE Center, SHP 50%.
4. Set the PICT 06 WTS to 00h.
5. Connect an oscilloscope to pin ② (B OUTPUT) of CN004 A Board.
6. Set the service mode and select SADJ 04 "SCOL" with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6] (for PAL), and write in the data as below :
   Add 2 steps to SCOL (PAL) - 25" and 29".
   Add 6 steps to SCOL (PAL) - 34".
7. Copy "SCOL 50 PAL(Video)"data to "SCOL 50 SECAM(Video)"
8. Copy "SCOL 50 PAL(Video)" and "SCOL 50 SECAM (Video)" data to "SCOL 50 PAL(TV)" and "SCOL 50 SECAM(TV)" table.
9. Input NTSC 75% Color Bar to TV set and repeat item 3-5.
10. Set the service mode and select SADJ 04 "SCOL" with [1] and [4] of the commander then adjust to VB1 = VB4 with [3] and [6] (for NTSC) and write in the data as below :
    Add 5 steps to SCOL (NTSC) - 25"
    Add 3 steps to SCOL (NTSC) - 29".
    Add 6 steps to SCOL (NTSC) - 34".
11. Copy "SCOL 60 NTSC(Video)"data to "SCOL 60 NTSC(TV)"
12. Copy "SCOL 50 PAL"data to "SCOL 50 YUV" table and "SCOL 60 NTSC" data to "SCOL 60 YUV".
13. Set WTS back to original data.




VB2 = VB3 = VB4(For PAL sub color adjustment)
VB1 = VB4(For NTSC sub color adjustment)
(Difference is within 70mV)

### SUB HUE ADJUSTMENT

1. Select Video.
2. Input NTSC 3.58 Color Bar to TV set.
3. Set to following condition:
   PICTURE 100%,COLOR 50%, BRIGHTNESS 50%, HUE Center, SHP 50%.
4. Connect an oscilloscope to pin ② (B output) of CN004.
5. Set the service mode and select SADJ 01 "SHUE" with [1] and [4] of the commander then adjust to VB1=VB2=VB3=VB4 with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select TV channel with NTSC 3.58 and repeat item 3-6.
8. For single system models with NTSC 4.43, select TV channel with NTSC 4.43 and repeat 3-6.

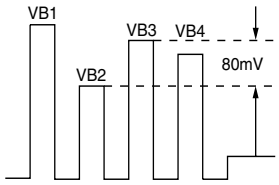



VB1 = VB2 = VB3 = VB4

The highest level of VB1, VB2, VB3, VB4 must be aligned at the same time.
The ideal difference between VB2 and VB3 is within ± 80mV.

### Sub Hue Adjustment For YUV input

1. Select YUV input.
2. Input NTSC 3.58 Color Bar into YUV mode.
3. Connect an oscilloscope to pin ① (B output) of CN004.
4. Set the service mode and select YC 13 "TINT" with [1] and [4] of the commander then adjust to VB1=VB2=VB3=VB4 with [3] and [6].
5. Then press [MUTING] → [0] to write the data.



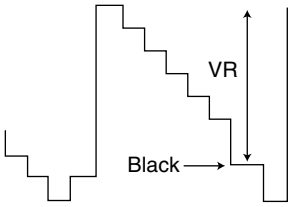

VB1 = VB2 = VB3 = VB4

The highest level of VB1, VB2, VB3, VB4 must be aligned at the same time.
The ideal difference between VB2 and VB3 is within ± 80mV.

### PMAX/CONTRAST ADJUSTMENT

Picture Mode: Sports (NTSC model)
Picture Mode: Personal (Others)

1. Select Video mode.
2. i)Input PAL Color Bar toTV set. (Other)
   ii)Input NTSC 75% Color Bar (NTSC model).
3. Set the following condition:
   PICTURE 100%, COLOR 0%,BRIGHTNESS 50%
4. Connect oscilloscope to pin ④ (R Output) of CN004,
5. Set to Service Mode PWL PICT 03 to 00h and WHBL 017 BLBG to 01h.
6. Select SADJ 00 "PMAX" with [1] and [4] of the commander then adjust VR within spec with [3] and [6].



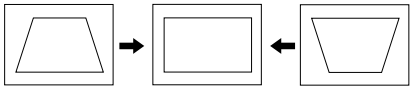

| | | PAL | NTSC |
|---|---|---|---|
| VR | 25" 34" | 2.20± 0.03Vpp | 1.85±0.03Vpp |
| | 29" | 1.90± 0.03Vpp | 1.57±0.03Vpp |

7. Copy PMAX data to TV models.
8. Select "WIDE" mode for TV & Video mode, Write the PMAX Data – 6 steps (for model with V-Compression features only).
9. Set the PWL & BLBG back to (PWL: 01h and BLBG: 00h)

## 3-4. DEFLECTION ADJUSTMENT

### H-TRAPEZOID ADJUSTMENT

1. Receive cross hatch/dot signal
2. Adjust RV1801 on C-Board to make H-Trapezoid distortion best.



### NORMAL MODE (50Hz)

1. Set to Service Mode.
2. Input SPCB Signal (For NTSC models select Video mode)
3. Using the [1] and [4] buttons select category GEO (service mode) Raise/lower data using the [3] and [6] buttons to adjust the following items:-
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 000 | HPOS | HORIZONTAL SHIFT (HS) |
| | 001 | HPAR | HORIZONTAL PARALLELOGRAM |
| | 002 | HBOW | HORIZONTAL BOW |
| | 003 | VLIN | VERTICAL LINEARITY |
| | 004 | VSCR | VERTICAL SCROLL |
| | 005 | HSIZ | EW WIDTH (EW) |
| | 006 | EWPW | EW PARABOLA/WIDTH (PW) |
| | 007 | UCOP | EW UPPER CORNER PARABOLA |
| | 008 | LCOP | EW LOWER CORNER PARABOLA |
| | 009 | EWTZ | EW TRAPEZIUM |
| | 010 | VSLP | VERTICAL SLOPE (VS) |
| | 011 | VSIZ | VERTICAL AMPLITUDE |
| | 012 | SCOR | S-CORRECTION (SC) |
| | 013 | VPOS | VERTICAL SHIFT (VSH) |
| | 014 | HBL | RGB BLANKING MODE |
| | 015 | WBF | TIMING OF WIDE BLANKING (WBF) |
| | 016 | WBR | TIMING OF WIDE BLANKING (WBR) |
| | 017 | SBL | SERVICE BLANKING |
| | 018 | COPY | COPY THE GEO DATA TO ALL 50/60Hz NVM AREA |

4. For Korea models only:
   a) For GEOM items, copy adjusted 60Hz to 50Hz
   b) Add 6 steps to 50Hz "HPOS" item and save data.
   c) Add 3 steps to 50Hz "HSIZ" item and save data.

### WIDE MODE (50Hz)

(V-Compression Adjustment)

1. Input SPCB signal(For NTSC models select Video mode)
2. Adjust condition to WIDE MODE : ON.
3. Copy (item from NORMAL MODE (50Hz) adjusted data for the following items:
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 003 | VLIN | VERTICAL LINEARITY |
| | 005 | HSIZ | EW WIDTH (EW) |
| | 011 | VSIZ | VERTICAL AMPLITUDE |
| | 012 | SCOR | S-CORRECTION (SC) |

4. Raise/lower data using the [3] and [6] buttons, select and adjust the following item to obtain optimum image.
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 000 | HPOS | HORIZONTAL SHIFT (HS) |
| | 001 | HPAR | HORIZONTAL PARALLELOGRAM |
| | 002 | HBOW | HORIZONTAL BOW |
| | 004 | VSCR | VERTICAL SCROLL |
| | 006 | EWPW | EW PARABOLA/WIDTH (PW) |
| | 007 | UCOP | EW UPPER CORNER PARABOLA |
| | 008 | LCOP | EW LOWER CORNER PARABOLA |
| | 009 | EWTZ | EW TRAPEZIUM |
| | 010 | VSLP | VERTICAL SLOPE (VS) PARALLELOGRAM |
| | 013 | VPOS | VERTICAL SHIFT (VSH) |
| | 014 | HBL | RGB BLANKING MODE |
| | 015 | WBF | TIMING OF WIDE BLANKING (WBF) |
| | 016 | WBR | TIMING OF WIDE BLANKING (WBR) |
| | 017 | SBL | SERVICE BLANKING |
| | 018 | COPY | COPY THE GEO DATA TO ALL 50/60Hz NVM AREA |

5. For Korea models only:
   a) Copy adjusted 60Hz data to 50Hz
   b) Add 6 steps to 50Hz "HPS" item and save data.

### NORMAL MODE (60Hz)

1. Input 525/60Hz signal.
2. Using the [1] and [4] buttons select category GEOM (Service Mode.)
3. Raise/ lower data using the [3] and [6] buttons to obtain optimum image
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 000 | HPOS | HORIZONTAL SHIFT (HS) |
| | 001 | HPAR | HORIZONTAL PARALLELOGRAM |
| | 002 | HBOW | HORIZONTAL BOW |
| | 003 | VLIN | VERTICAL LINEARITY |
| | 004 | VSCR | VERTICAL SCROLL |
| | 005 | HSIZ | EW WIDTH (EW) |
| | 006 | EWPW | EW PARABOLA/WIDTH (PW) |
| | 007 | UCOP | EW UPPER CORNER PARABOLA |
| | 008 | LCOP | EW LOWER CORNER PARABOLA |
| | 009 | EWTZ | EW TRAPEZIUM |
| | 010 | VSLP | VERTICAL SLOPE (VS) |
| | 011 | VSIZ | VERTICAL AMPLITUDE |
| | 012 | SCOR | S-CORRECTION (SC) |
| | 013 | VPOS | VERTICAL SHIFT (VSH) |
| | 014 | HBL | RGB BLANKING MODE |
| | 015 | WBF | TIMING OF WIDE BLANKING (WBF) |
| | 016 | WBR | TIMING OF WIDE BLANKING (WBR) |
| | 017 | SBL | SERVICE BLANKING |
| | 018 | COPY | COPY THE GEO DATA TO ALL 50/60Hz NVM AREA |

**WIDE MODE (60Hz)**

(V-Compression Adjustment)

1. Input mono scope signal
2. Adjust condition to WIDE MODE : ON.
3. Copy (item from NORMAL MODE 60Hz) adjusted data for the following items:
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 003 | VLIN | VERTICAL LINEARITY |
| | 005 | HSIZ | EV WIDTH (EW) |
| | 011 | VSIZ | VERTICAL AMPLITUDE |
| | 012 | SCOR | S-CORRECTION (SC) |

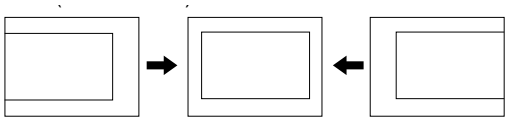
4. Raise/lower data using [3] and [6] buttons, select and adjust the following item to obtain optimum image.
   Service Item

| | | | |
|---|---|---|---|
| GEOM: | 000 | HPOS | HORIZONTAL SHIFT (HS) |
| | 001 | HPAR | HORIZONTAL PARALLELOGRAM |
| | 002 | HBOW | HORIZONTAL BOW |
| | 004 | VSCR | VERTICAL SCROLL |
| | 006 | EWPW | EW PARABOLA/ WIDTH (PW) |
| | 007 | UCOP | EW UPPER CORNER PARABOLA |
| | 008 | LCOP | EW LOWER CORNER PARABOLA |
| | 009 | EWTZ | EW TRAPAZIUM |
| | 010 | VSLP | VERTICAL SLOPE(VS) |
| | 013 | VPOS | VERTICAL SHIFT (VSH) |
| | 014 | HBL | RGB BLANKING MODE |
| | 015 | WBF | TIMING OF WIDE BLANKING (WBF) |
| | 016 | WBR | TIMING OF WIDE BLANKING (WBR) |
| | 017 | SBL | SERVICE BLANKING |
| | 018 | COPY | COPY THE GEO DATA TO ALL 50/60Hz NVM AREA |

## 3-5. PICTURE DISTORTION ADJUSTMENT

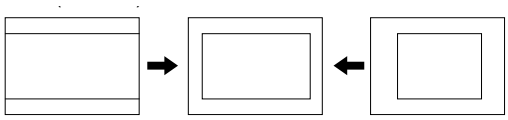
### H. CENTER ADJUSTMENT (HPOS)

1. Input Monoscope signal.
2. Activate the Service Adjustment Mode.
3. Select the HPOS item with [1] and [4].
4. Adjust the value of HPOS with [3] and [6] for the best horizontal center.
5. Press [MUTING] then [0] to save into the memory.



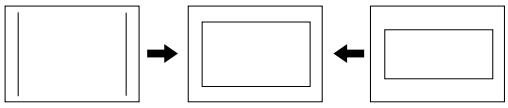
### H. SIZE ADJUSTMENT (HSIZ)

1. Input Monoscope signal.
2. Activate the Service Mode.
3. Select HSIZ with [1] and [4].
4. Adjust with [3] and [6] for the best horizontal size.
5. Press [MUTING] then [0] to save into the memory.



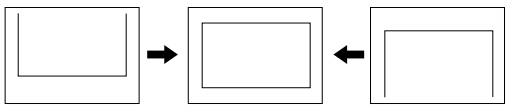
### V. SIZE ADJUSTMENT (VSIZ)

1. Input Monoscope signal.
2. Activate the Service Mode.
3. Select theVSIZ item with [1] and [4].
4. Adjust value of VSIZ with [3] and [6] for the best vertical size.
5. Press [MUTING] then [0] to save into the memory.



### V. CENTER ADJUSTMENT (VPOS)

1. Input Monoscope signal.
2. Activate the Service Mode.
3. Select VPOS item with [1] and [4].
4. Adjust value of VPOS with [3] and [6] for the best vertical center.
5. Press [MUTING] then [0] to save into the memory.



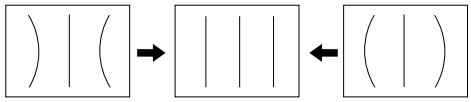
### V.LINEARITY (VLIN), S CORRECTION (SCOR), EW PARABOLA/WIDTH (EWPW), AND EW TRAPEZIUM (EWTZ) ADJUSTMENTS

1. Input Monoscope signal.
2. Activate the Service Mode.
3. Select VLIN, SCOR, EWPW, and EWTZ with 1 and 4.
4. Adjust with 3 and 6 for the best Picture.
5. Press MUTING then 0 to save into the memory.

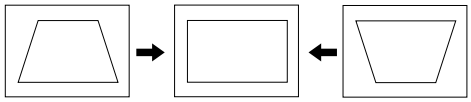
V LINEARITY (VLIN)

S CORRECTION (SCOR)

EW PARABOLA/WIDTH (EWPW)



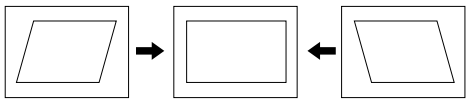
EW TRAPEZIUM (EWTZ)



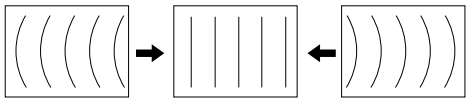
### HORIZONTOL PARALLELOGRAM (HPAR), H BOW (HBOW), UPPER PIN (UCOP) AND LOW PIN (LCOP) ADJUSTMENTS

1. Input Monoscope signal.
2. Activate the Service Mode.
3. Select the HPAR, HBOW, UCOP, and LCOP with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Press MUTING then 0 to save into the memory.

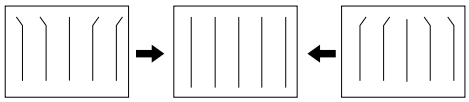
HORIZONTOLPARALLELOGRAM (HPAR)



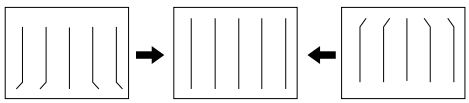
HORIZONTOL BOW (HBOW)



UPPER PIN (UCOP)

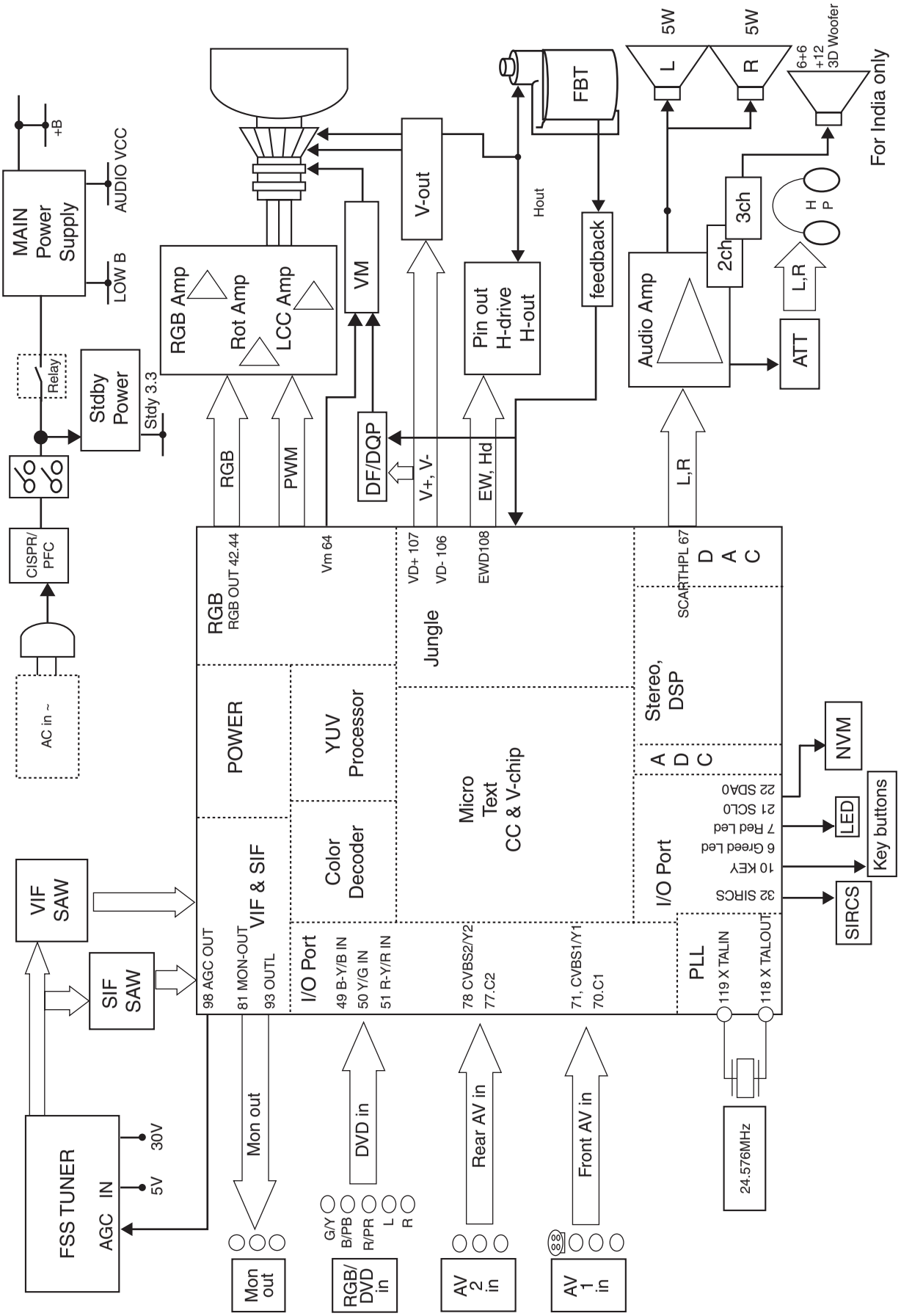


LOW PIN (LCOP)

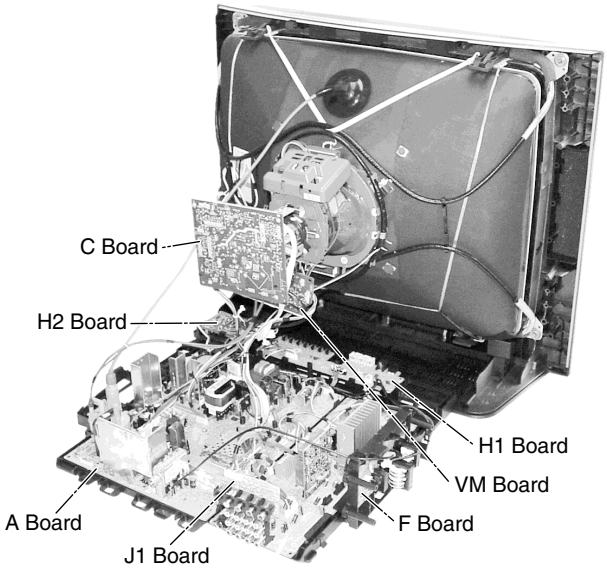


# SECTION 4
# DIAGRAMS

## 4-1. BLOCK DIAGRAM



## 4-2. CIRCUIT BOARDS LOCATION




## 4-3. SCHEMATIC DIAGRAM

**Note:**

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

- : nonflammable resistor.
- △ : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
  **no mark : Common**
  **( ) : PAL**
  **[ ] : NTSC 3.58**
- **Readings are taken with a 10MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in Volt.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- **⇨ : signal path.**

**Note: The reference number which starts with Wxxx (eg: W003) indicates a wire to wire connection.**

**Note: Components marked as XX are not fitted on this model.**

**Reference information**

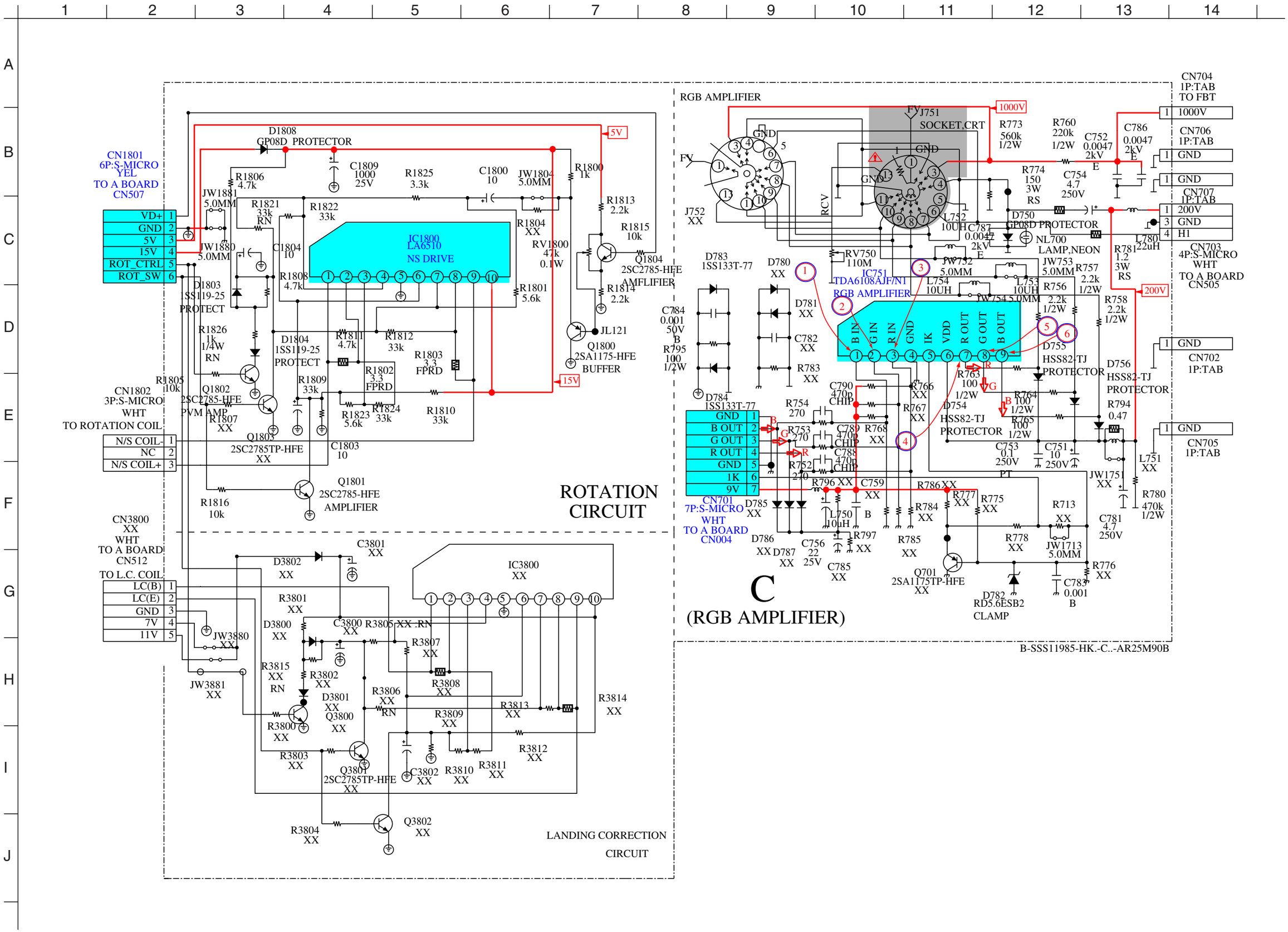
| | | |
|---|---|---|
| RESISTOR | : RN | METAL FILM |
| | : RC | SOLID |
| | : FPRD | NONFLAMMABLE CARBON |
| | : FUSE | NONFLAMMABLE FUSIBLE |
| | : RS | NONFLAMMABLE METAL OXIDE |
| | : RB | NONFLAMMABLE CEMENT |
| | : RW | NONFLAMMABLE WIREWOUND |
| | : ✻ | ADJUSTMENT RESISTOR |
| COIL | : LF-8L | MICRO INDUCTOR |
| CAPACITOR | : TA | TANTALUM |
| | : PS | STYROL |
| | : PP | POLYPROPYLENE |
| | : PT | MYLAR |
| | : MPS | METALIZED POLYESTER |
| | : MPP | METALIZED POLYPROPYLENE |
| | : ALB | BIPOLAR |
| | : ALT | HIGH TEMPERATURE |
| | : ALR | HIGH RIPPLE |

**Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

**Note:** "A" board schematic diagram is divided into 6 blocks.
Each block is named by its function and block "alphabet".
eg: Processor (Block A)
Joint connection between boards can be identified using the block alphabet followed by sequence numbering.
eg: -<HOUT-DEFL (A10) To D11
Meaning: Block A joint A10 is connected to Block D joint D11

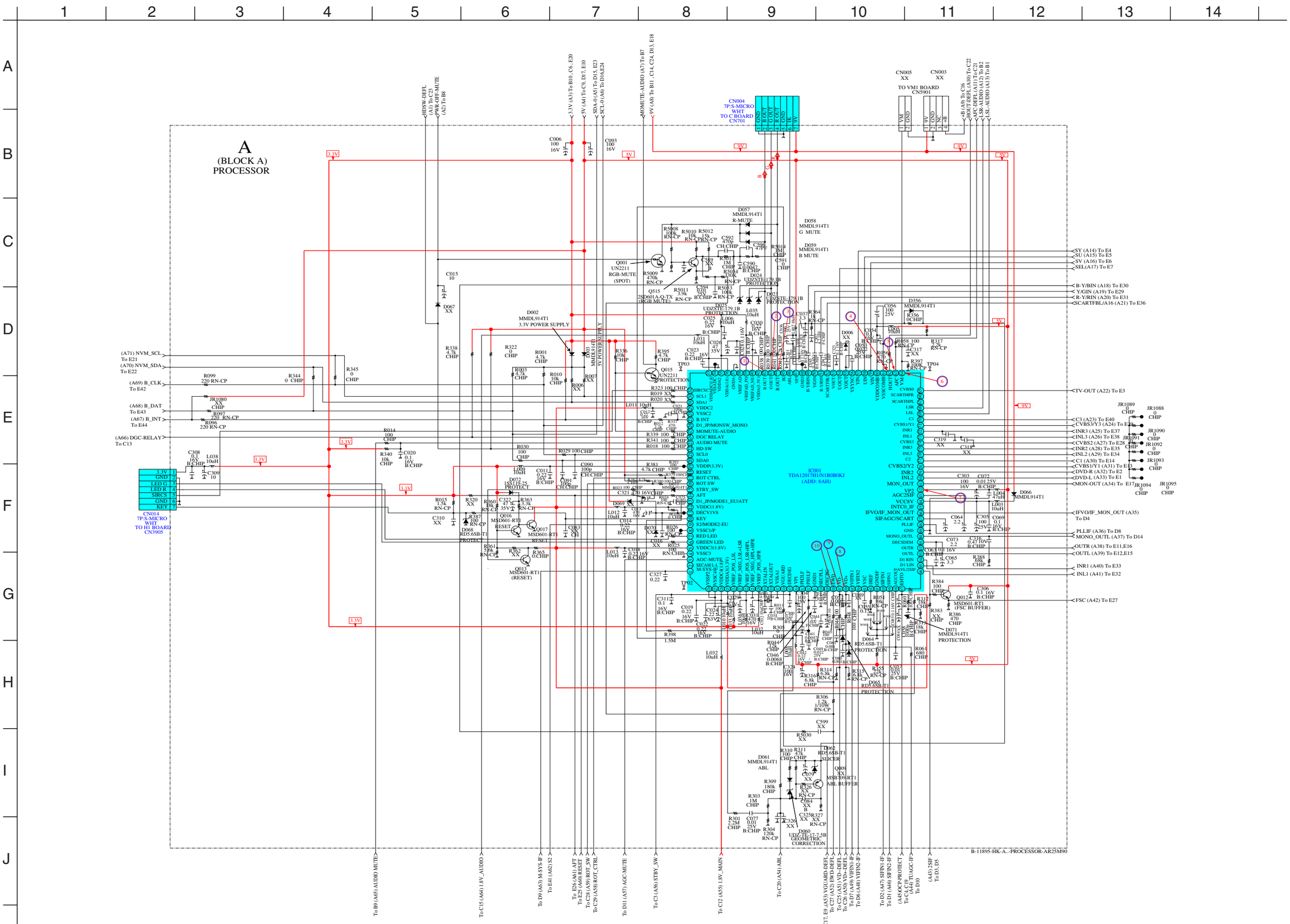
KV-AR25M90B
RM-W104

## 4-3-1. C Board Schematic Diagram



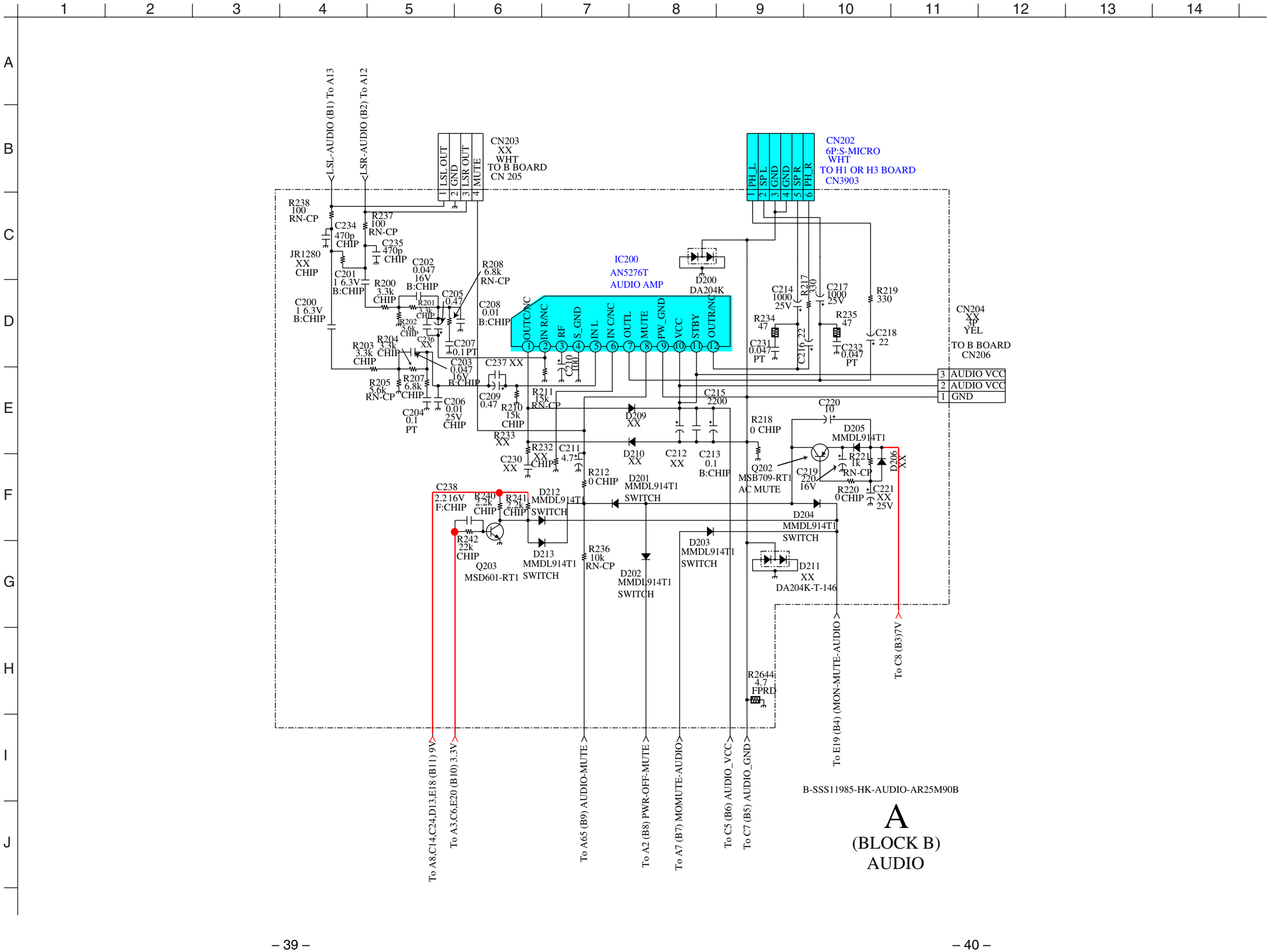
KV-AR25M90B
RM-W104

## 4-3-2. A Board — Processor (Block A)



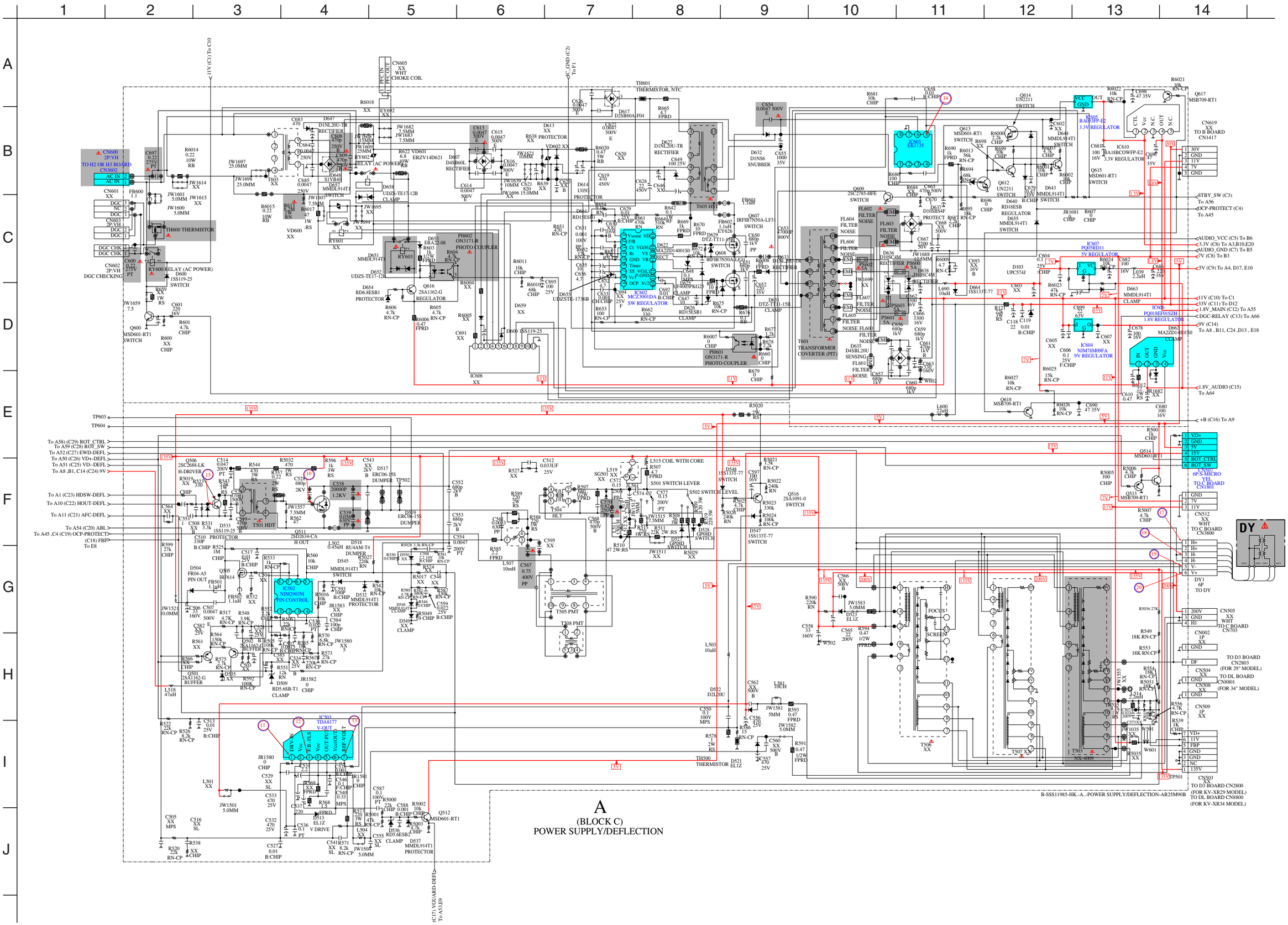
KV-AR25M90B
RM-W104

## 4-3-3. A Board — Audio (Block B)



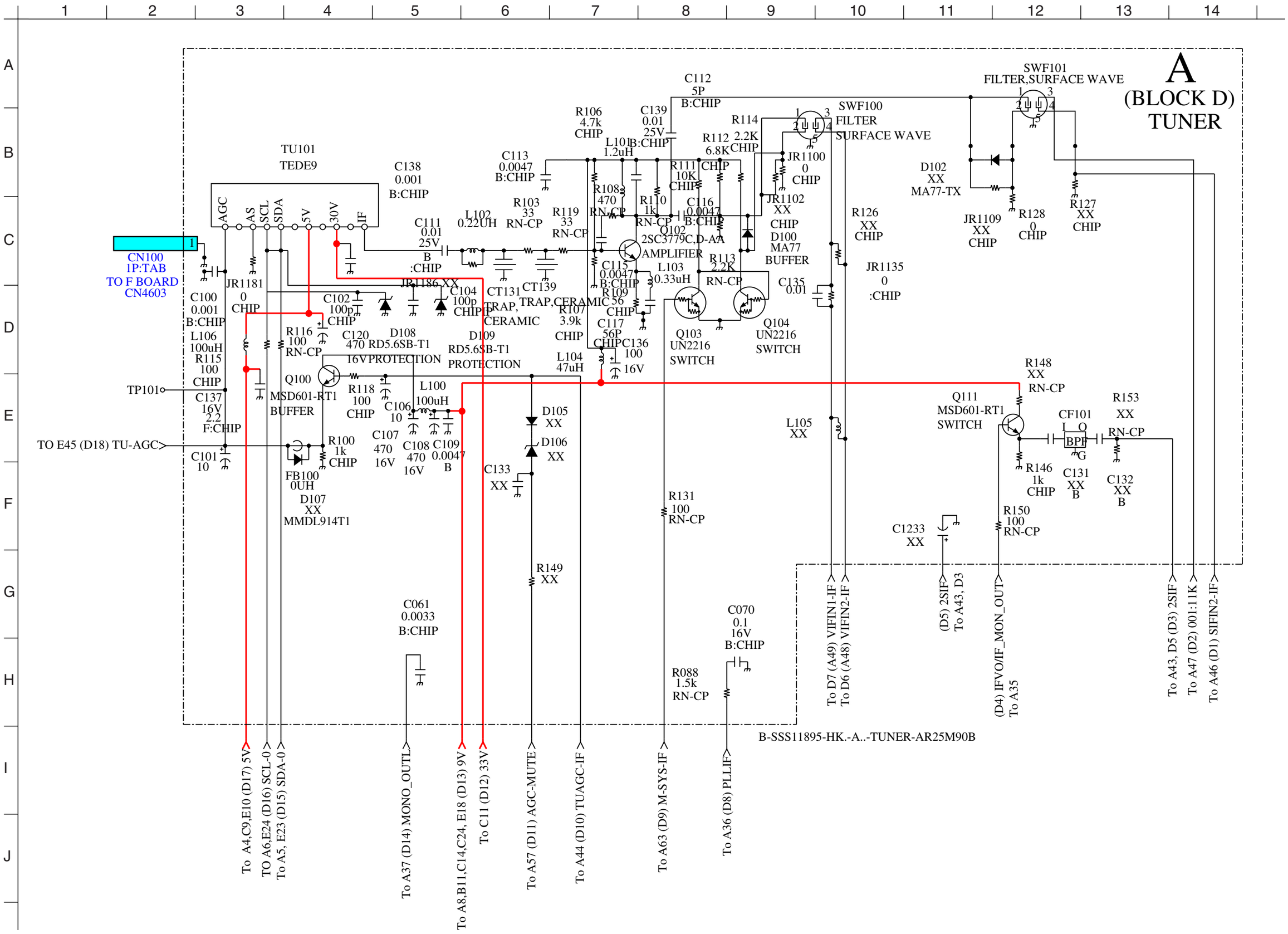
KV-AR25M90B
RM-W104

## 4-3-4. A Board — Power Supply (Block C)



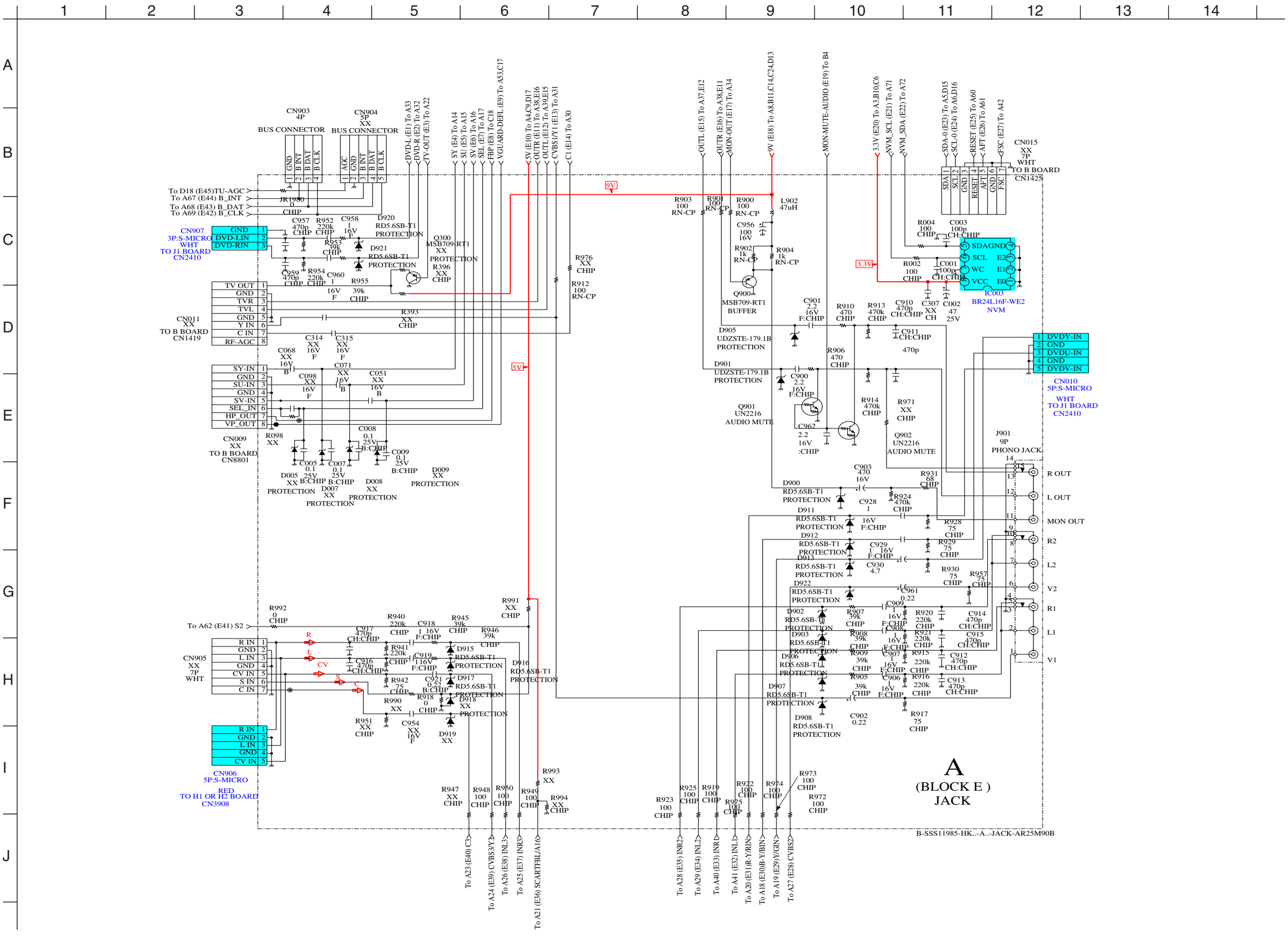
KV-AR25M90B
RM-W104

## 4-3-5. A Board — Tuner (Block D)

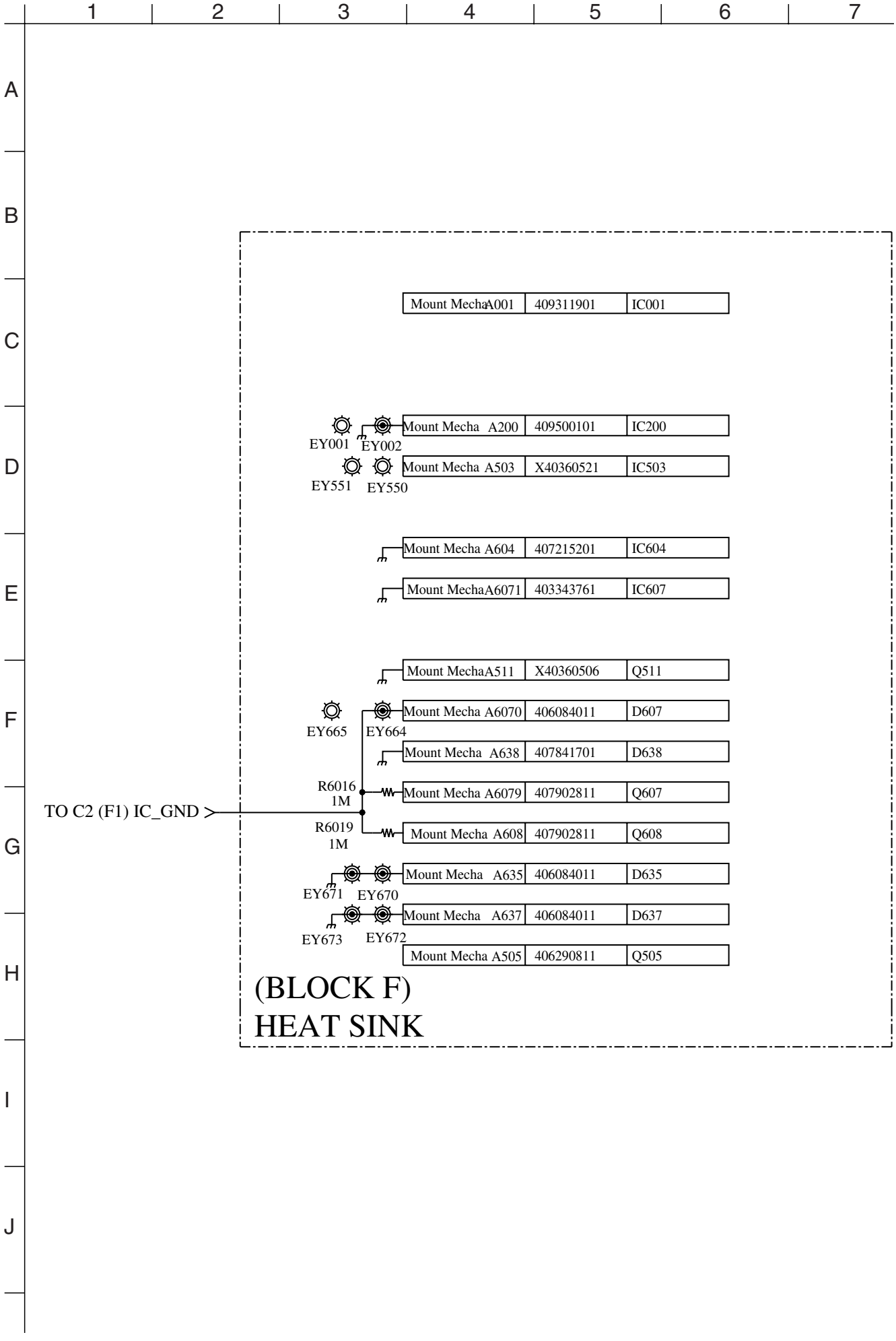


KV-AR25M90B
RM-W104

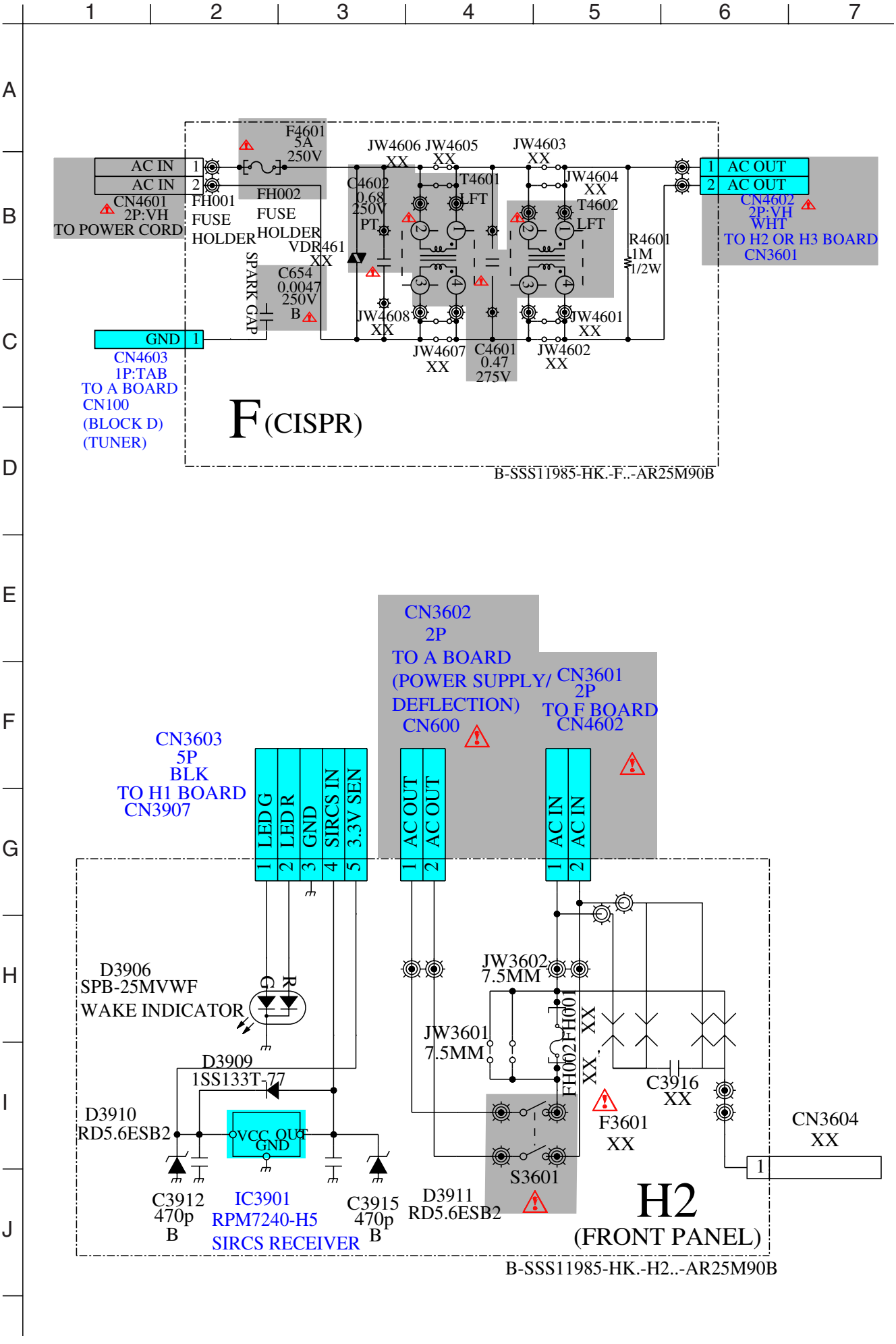
## 4-3-6. A Board — Jack (Block E)



**4-3-7. A Board — Heat Sink (Block F)**

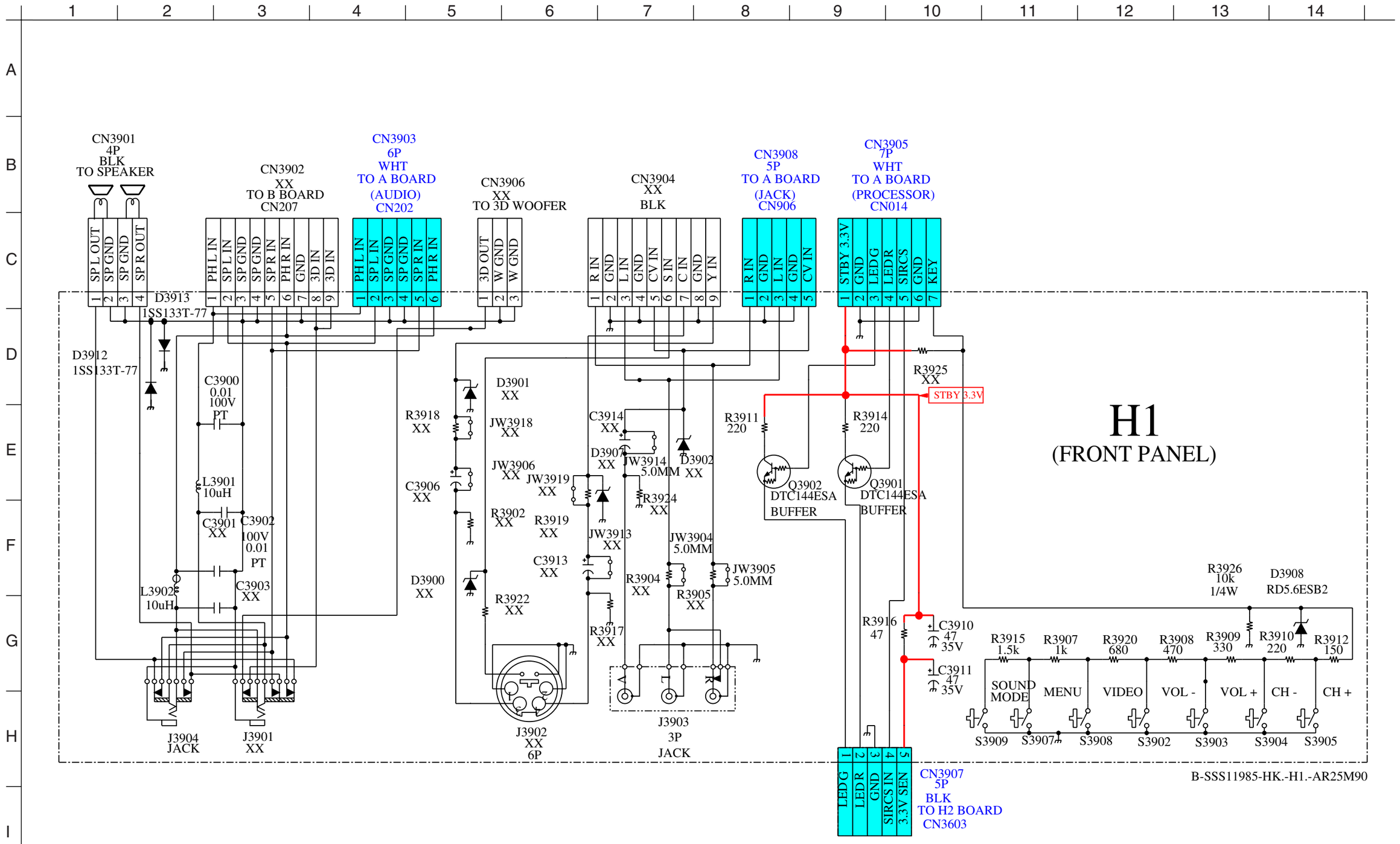


## 4-3-8. F and H2 Boards Schematic Diagrams



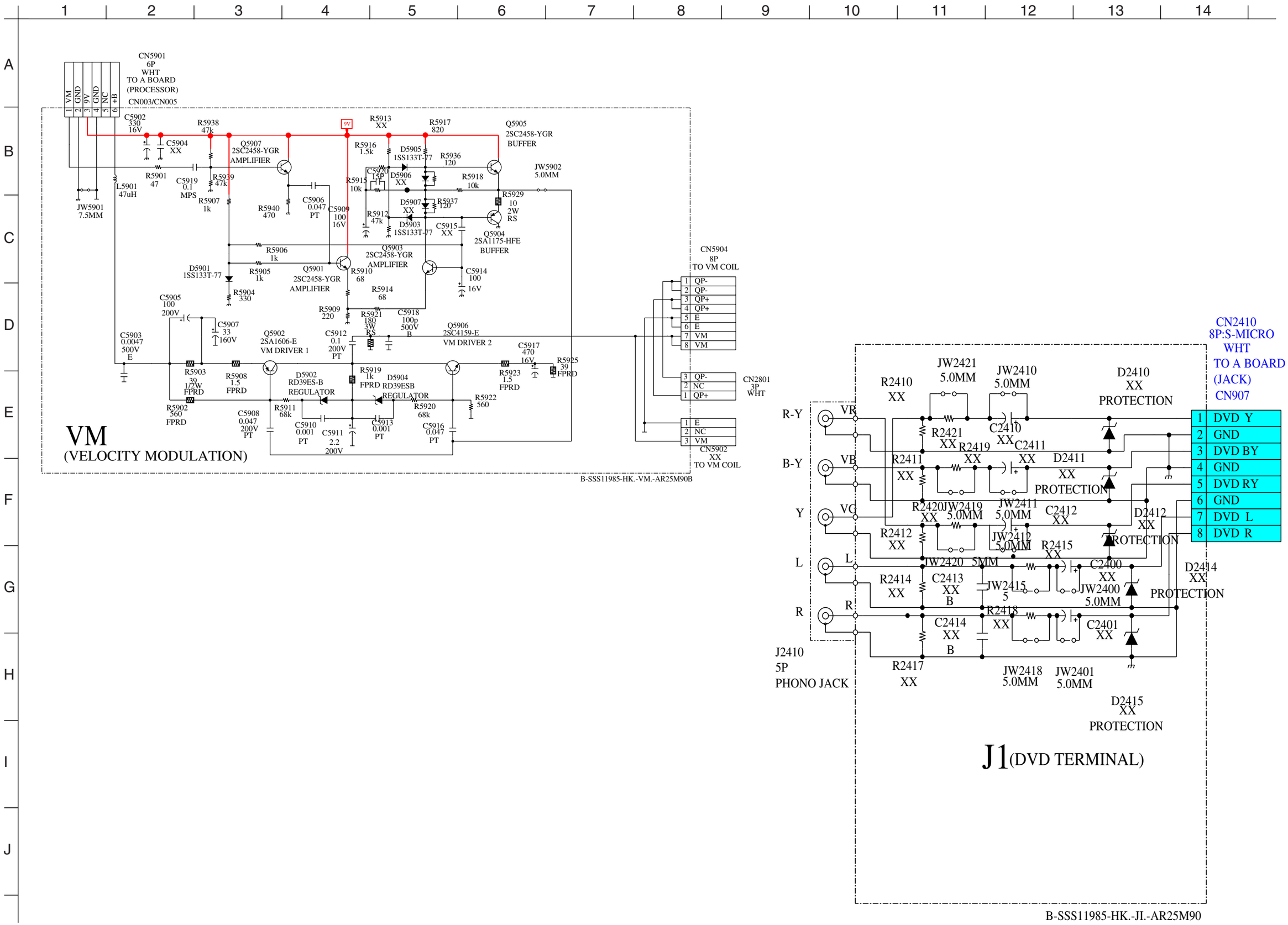
KV-AR25M90B
RM-W104

## 4-3-9. H1 Board Schematic Diagrams



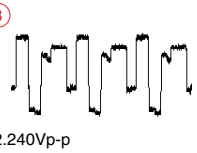
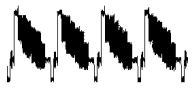
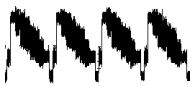
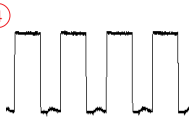
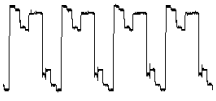
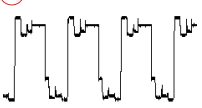
KV-AR25M90B RM-W104

## 4-3-10. J1 and VM Boards Schematic Diagrams



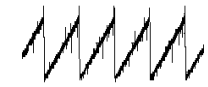
## 4-4. VOLTAGE MEASUREMENT AND WAVEFORMS

A BOARD VOLTAGE LIST AND WAVEFORM

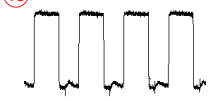
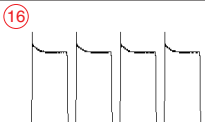
| Ref | Pin No. | Voltage[v] | Ref | Pin No. | Voltage[v] | Ref | Pin No. | Voltage[v] |
|---|---|---|---|---|---|---|---|---|
| IC001 | 1 | 0 | | 44 | 2.0 | | 82 | 4.9 |
| | 2 | 3.3 | | ③  2.240Vp-p | | | ⑦ PAL  2.240V | |
| | 3 | (3.3)[0] | | | | | | |
| | 4 | (1.4)[0] | | 45 | 3.2 | | ⑦ NTSC  2.120V | |
| | 5 | (3.3)[2.0] | | 46 | (0)[2.0] | | | |
| | 6 | (0)[3.3] | | 47 | (2.1)[5] | | | |
| | 7 | 0 | | 48 | 0 | | | |
| | 8 | 0 | | 49 | (1.2)[0] | | | |
| | 9 | 0 | | 50 | 1.2 | | | |
| | 10 | 3.0 | | 51 | (1.2)[1.0] | | | |
| | 11 | 2.0 | | 52 | 0 | | | |
| | 12 | 2.0 | | 53 | 0 | | | |
| | 13 | 2.0 | | 54 | 0 | | | |
| | 14 | 1.0 | | 55 | 2.0 | | | |
| | 15 | 4.9 | | 56 | 2.0 | | | |
| | 16 | 0 | | 57 | (1.2)[0] | | | |
| | 17 | 2.0 | | 58 | 1.2 | | | |
| | 18 | 2.0 | | 59 | 1.2 | | | |
| | 19 | 3.3 | | 60 | 5.0 | | | |
| | 20 | 4.0 | | 61 | 0 | | | |
| | 21 | 4.0 | | 62 | (0)[1.5] | | | |
| | 22 | 5.0 | | ④  3.360Vp-p | | | | |
| | 23 | 0 | | | | | | |
| | 24 | 0 | | 63 | 0 | | | |
| | 25 | 2.0 | | ⑤ 5.760Vp-p | | | | |
| | 26 | 1.0 | | | | | | |
| | 27 | 3.3 | | 64 | 0 | | | |
| | 28 | 0 | | ⑥ 448.0mVp-p | | | | |
| | 29 | 2.0 | | | | | | |
| | 30 | 1.0 | | 65 | (1.2)[1.5] | | | |
| | 31 | 1.0 | | 66 | (0)[3.3] | | | |
| | 32 | (3.3)[0] | | 67 | (3.2)[0] | | | |
| | 33 | (1.0)[0] | | 68 | (3.2)[6.3] | | | |
| | 34 | 0 | | 69 | (3.2)[0] | | | |
| | 35 | (3.3)[0] | | 70 | (2.0)[0] | | | |
| | 36 | 2.0 | | 71 | (1.4)[0] | | | |
| | 37 | 0 | | 72 | (0)[2.2] | | | |
| | 38 | 2.0 | | 73 | (2.3)[0] | | | |
| | 39 | (3.3)[0] | | 74 | (1.4)[0] | | | |
| | 40 | 0 | | 75 | (0)[2.3] | | | |
| | 41 | 3.3 | | 76 | (0)[2.3] | | | |
| | 42 | 2.0 | | 77 | 2.0 | | | |
| | ① PAL 1.560Vp-p | | | 78 | (1.4)[2.1] | | | |
| | | | | 79 | 2.3 | | | |
| | ① NTSC 2.600Vp-p | | | 80 | 2.3 | | | |
| | | | | 81 | (1.3)[1.7] | | | |
| | 43 | 2.0 | | | | | | |
| | ② PAL  1.540Vp-p | | | | | | | |
| | ② NTSC  1.280Vp-p | | | | | | | |
| | | | | | | | | |

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| | 83 | 0 |
| | 84 | (2.1)[8.2] |
| | 85 | (1.0)[1.4] |
| | 86 | (0)[3.0] |
| | 87 | (1.6)[0.2] |
| | 88 | (2.0)[3] |
| | 89 | 0 |
| | 90 | 2.4 |
| | 91 | 2.2 |
| | 92 | 3.2 |
| | 93 | 3.2 |
| | 94 | 2.3 |
| | 95 | 2.3 |
| | 96 | 0 |
| | 97 | 0 |
| | 98 | (2.5)[4.8] |
| | 99 | 2.0 |
| | 100 | 2.0 |
| | 101 | 0 |
| | 102 | 2.0 |
| | 103 | 2.3 |
| | 104 | (1.2)[2.0] |
| | 105 | (0)[2] |
| | 106 | 2.2 |
| | ⑧ 2.400Vp-p | |
| | 107 | 2.0 |
| | ⑨ 2.200Vp-p | |
| | 108 | (2.0)[2.3] |
| | ⑩ PAL 1.000V | |
| | ⑩ NTSC 1.300V | |
| | 109 | 2.3 |
| | 110 | (3.0)[2.3] |
| | 111 | 0 |
| | 112 | 2.2 |
| | 113 | 2.0 |
| | 114 | (2.2)[2.5] |
| | 115 | 2.5 |
| | 116 | 0.1 |

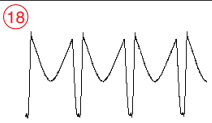
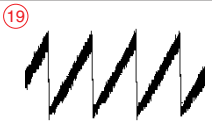
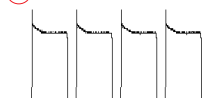
## A BOARD VOLTAGE LIST AND WAVEFORM

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| | 117 | 0 |
| | 118 | * |
| | 119 | * |
| | 120 | 3.3 |
| | 121 | 0 |
| | 122 | 3.3 |
| | 123 | 0 |
| | 124 | 0 |
| | 125 | 3.3 |
| | 126 | 2.0 |
| | 127 | 0 |
| | 128 | 0 |
| IC003 | 1 | 0 |
| | 2 | 0 |
| | 3 | 0 |
| | 4 | 0 |
| | 5 | 4.0 |
| | 6 | 4.2 |
| | 7 | 0 |
| | 8 | 3.3 |
| IC200 | 1 | 0 |
| | 2 | 0 |
| | 3 | 19.0 |
| | 4 | 0 |
| | 5 | 0 |
| | 6 | 0 |
| | 7 | 9.3 |
| | 8 | 0 |
| | 9 | 0 |
| | 10 | 20.1 |
| | 11 | 20.1 |
| | 12 | 9.3 |
| IC502 | 1 | 0 |
| | 2 | (1.0)[0] |
| | 3 | (1.07)[0] |
| | 4 | 0 |
| | 5 | (3.0)[2.5] |
| | 6 | 2.0 |
| | 7 | 6.2 |
| | 8 | (9.0)[0] |
| IC503 | 1 | 0 |
| | ⑪  920.0mVp-p | |
| | 2 | 13.0 |
| | 3 | 30.0 |
| | ⑫ 30.00Vp-p | |
| | 4 | -14.7 |
| | 5 | 0 |
| | 6 | (0)[13.1] |
| | 7 | 0 |
| | ⑬ 1.580Vp-p | |
| IC602 | 1 | (3.0)[2.3] |
| | 2 | 2.0 |
| | 3 | 2.0 |
| | 4 | 2.5 |
| | 5 | 0 |
| | 6 | (0)[4.5] |
| | 7 | (5.0)[17.4] |

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| | 8 | (17.5)[0] |
| | 9 | 0 |
| | 10 | 10.4 |
| | 11 | 0 |
| | 12 | (5.2)[5.0] |
| | 13 | 0 |
| | 14 | (142)[140] |
| | 15 | 13. |
| | 16 | (137)[135] |
| | 17 | 0 |
| | 18 | (269)[275] |
| IC603 | 1 | 134 |
| | 2 | 0 |
| | 3 | 2.7 |
| | 4 | 2.7 |
| | 5 | 2.4 |
| | ⑭ 940.0mVp-p | |
| | 6 | 11.0 |
| | 7 | 0 |
| | 8 | 0 |
| IC604 | I | 13.4 |
| | G | (0)[8.7] |
| | O | (3.61)[0] |
| IC605 | 1 | (2.0)[0.1] |
| | 2 | 0 |
| | 3 | 0 |
| | 4 | 7.0 |
| | 5 | 0 |
| IC606 | I | 4.0 |
| | G | 0 |
| | O | 1.7 |
| IC607 | I | 6.4 |
| | G | 0 |
| | O | 5.0 |
| IC608 | 1 | 0 |
| | 2 | 2.5 |
| | 3 | 2.4 |
| | 4 | 2.5 |
| | 5 | 15.3 |
| | 6 | (0)[0.2] |
| | 7 | (0)[0.2] |
| | 8 | (0)[0.2] |
| | 9 | (0)[0.2] |
| | 10 | (0)[0.2] |
| | 11 | (0)[0.2] |
| IC609 | 1 | 5.0 |
| | 2 | 0 |
| | 3 | 5.0 |
| | 4 | 2.0 |
| | 5 | 0 |
| PH600 | 1 | 13.4 |
| | 2 | 12.4 |
| | 3 | 0 |
| | 4 | 1.7 |
| Q001 | B | 0 |
| | C | 2.0 |
| | E | 0 |
| Q009 | B | 0 |
| | C | 0 |
| | E | 2.3 |
| Q012 | B | (0)[0.3] |
| | C | 5.0 |
| | E | 0 |
| Q013 | B | 0 |
| | C | (2.0)[1.3] |
| | E | 0 |
| Q014 | B | (0)[1.0] |
| | C | 0 |
| | E | 0 |

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| Q015 | B | 2.0 |
| | C | 0 |
| | E | 0 |
| Q100 | B | 2.5 |
| | C | 8.8 |
| | E | 2.0 |
| Q103 | B | (0)[3.2] |
| | C | (3.2)[0] |
| | E | 0 |
| Q104 | B | (3.2)[0] |
| | C | 0 |
| | E | 0 |
| Q106 | B | (0)[3.1] |
| | C | 2.4 |
| | E | (9.0)[8.4] |
| Q110 | B | (2.0)[2.6] |
| | C | 8.8 |
| | E | 2.0 |
| Q111 | B | 2.3 |
| | C | 2.3 |
| | E | 2.2 |
| Q202 | B | 6.4 |
| | C | 0 |
| | E | (0)[6.9] |
| Q203 | B | 0.6 |
| | C | 0 |
| | E | 0 |
| Q300 | B | (1.2)[2.0] |
| | C | 0 |
| | E | 0 |
| Q501 | B | 0 |
| | C | 0 |
| | E | 0 |
| Q502 | B | 0 |
| | C | (1.9)[1.3] |
| | E | 0 |
| Q505 | S | 0 |
| | G | 6.0 |
| | O | 22.0 |
| Q506 | B | 0 |
| | ⑮  2.90Vp-p | |
| | C | 78.5 |
| | E | 0 |
| Q511 | B | 0 |
| | ⑯  378.0Vp-p | |
| | C | 137.4 |
| | E | 0 |
| Q512 | B | 0 |
| | C | 5.0 |
| | E | 0 |
| Q513 | B | 2.0 |
| | C | 0 |
| | E | 2.7 |
| Q514 | B | (2.7)[5.0] |
| | C | 5.0 |
| | E | (2.2)[1.7] |
| Q515 | B | 1.5 |
| | C | 2.2 |
| | E | 1.0 |
| Q516 | B | 133.4 |
| | C | 0 |
| | E | (0)[57.4] |

## A BOARD VOLTAGE LIST AND WAVEFORM

| Ref | Pin No. | Voltage[v] | Ref | Pin No. | Voltage[v] | Ref | Pin No. | Voltage[v] |
|---|---|---|---|---|---|---|---|---|
| Q600 | B<br>C<br>E | 0.14<br>13.4<br>0 | Q901 | B<br>C<br>E | 0<br>0<br>0 | | H- | |
| Q607 | S<br>G<br>O | (132)[130]<br>(132)[135]<br>276 | Q902 | B<br>C<br>E | 0<br>0<br>0 | | ⑱  182.0Vp-p | |
| Q608 | S<br>G<br>O | 0<br>(5.2)[4.9]<br>132 | Q910 | B<br>C<br>E | 0<br>0<br>0 | | V- | |
| Q609 | B<br>C<br>E | 0.7<br>0<br>0 | Q911 | B<br>C<br>E | 0<br>(0)[9.0]<br>0 | | ⑲  2.560Vp-p | |
| Q612 | B<br>C<br>E | 0<br>4.9<br>0 | Q912 | B<br>C<br>E | 0<br>0<br>0 | | | |
| Q613 | B<br>C<br>E | 1.0<br>0<br>0 | DY1 | H+ | | | V+ | |
| Q614 | B<br>C<br>E | 0.4<br>1.0<br>0 | | ⑰  378.0Vp-p | | | ⑳ 56.00Vp-p | |
| Q615 | B<br>C<br>E | (0.3)[0]<br>4.9<br>0 | | | | | | |
| Q900 | B<br>C<br>E | 1.26<br>0<br>2.0 | | | | | | |

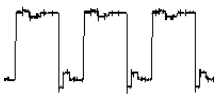
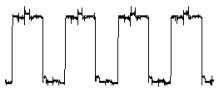
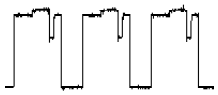
## VM BOARD VOLTAGE LIST

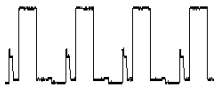
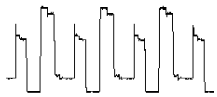
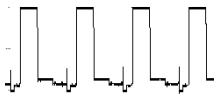
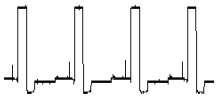
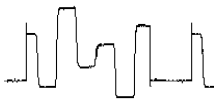
| Ref | Pin No. | Voltage[v] | Ref | Pin No. | Voltage[v] |
|---|---|---|---|---|---|
| Q5901 | B<br>C<br>E | 2.6<br>(0)[8.7]<br>2.0 | Q5905 | B<br>C<br>E | 5.5<br>8.7<br>5.0 |
| Q5902 | B<br>C<br>E | 135<br>80.0<br>135 | Q5906 | B<br>C<br>E | 0.3<br>80.0<br>0 |
| Q5903 | B<br>C<br>E | (0)[2.6]<br>4.6<br>2.0 | Q5907 | B<br>C<br>E | 3.6<br>8.7<br>2.9 |
| Q5904 | B<br>C<br>E | 4.6<br>0<br>5 | | | |

## H2 BOARD VOLTAGE LIST

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| IC3901 | VCC<br>GND<br>OUT | 3.2<br>0<br>2.9 |
| Q3900 | B<br>C<br>E | 0<br>3.2<br>0 |
| Q3902 | B<br>C<br>E | 3.2<br>3<br>1.8 |

C BOARD VOLTAGE LIST

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| IC751 | 1 | 2.0 |
| | ① PAL 1.340Vp-p | |
| | ① NTSC 2.120Vp-p | |
| | 2 | 1.8 |
| | ② PAL  1.380Vp-p | |
| | ② NTSC  1.220Vp-p | |
| | 3 | 1.8 |
| | ③ PAL  1.300Vp-p | |
| | ③ NTSC 2.200Vp-p | |
| | | |

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| | 4 | 0 |
| | 5 | 4.5 |
| | 6 | 200 |
| | 7 | (142)[13.8] |
| | ④ PAL  94.0Vp-p | |
| | ④ NTSC  144.0Vp-p | |
| | 8 | (141)[13.6] |
| | ⑤ PAL  104.0Vp-p | |
| | ⑤ NTSC  112.0Vp-p | |
| | 9 | (139)[13.4] |
| | ⑥ PAL 116.0Vp-p | |
| | ⑥ NTSC  142.0Vp-p | |

| Ref | Pin No. | Voltage[v] |
|---|---|---|
| J751 | 1 | (315)[312] |
| | 2 | 0 |
| | 3 | 0 |
| | 4 | 0 |
| | 5 | (137)[134] |
| | 6 | (141)[138] |
| | 7 | (142)[139] |
| Q701 | B | (4.4)[4.5] |
| | C | 0 |
| | E | 0 |
| IC1800 | 1 | 5.3 |
| | 2 | 5.2 |
| | 3 | 5.7 |
| | 4 | 5.7 |
| | 5 | 0 |
| | 6 | 5.8 |
| | 7 | 5.8 |
| | 8 | 9.3 |
| | 9 | 9.1 |
| | 10 | 12.3 |
| Q1800 | B | 3.3 |
| | C | 0 |
| | E | 4.0 |
| Q1801 | B | (0)[0.2] |
| | C | 5.8 |
| | E | 0 |
| Q1802 | B | 0 |
| | C | 1.2 |
| | E | 0 |
| Q1803 | B | 0 |
| | C | 5.4 |
| | E | 0 |
| Q1804 | B | 2.0 |
| | C | (3.3)[3.5] |
| | E | (1.5)[1.4] |
| Q3801 | B | 0 |
| | C | 0 |
| | E | 0 |
| Q3802 | B | 0 |
| | C | 0 |
| | E | 0 |

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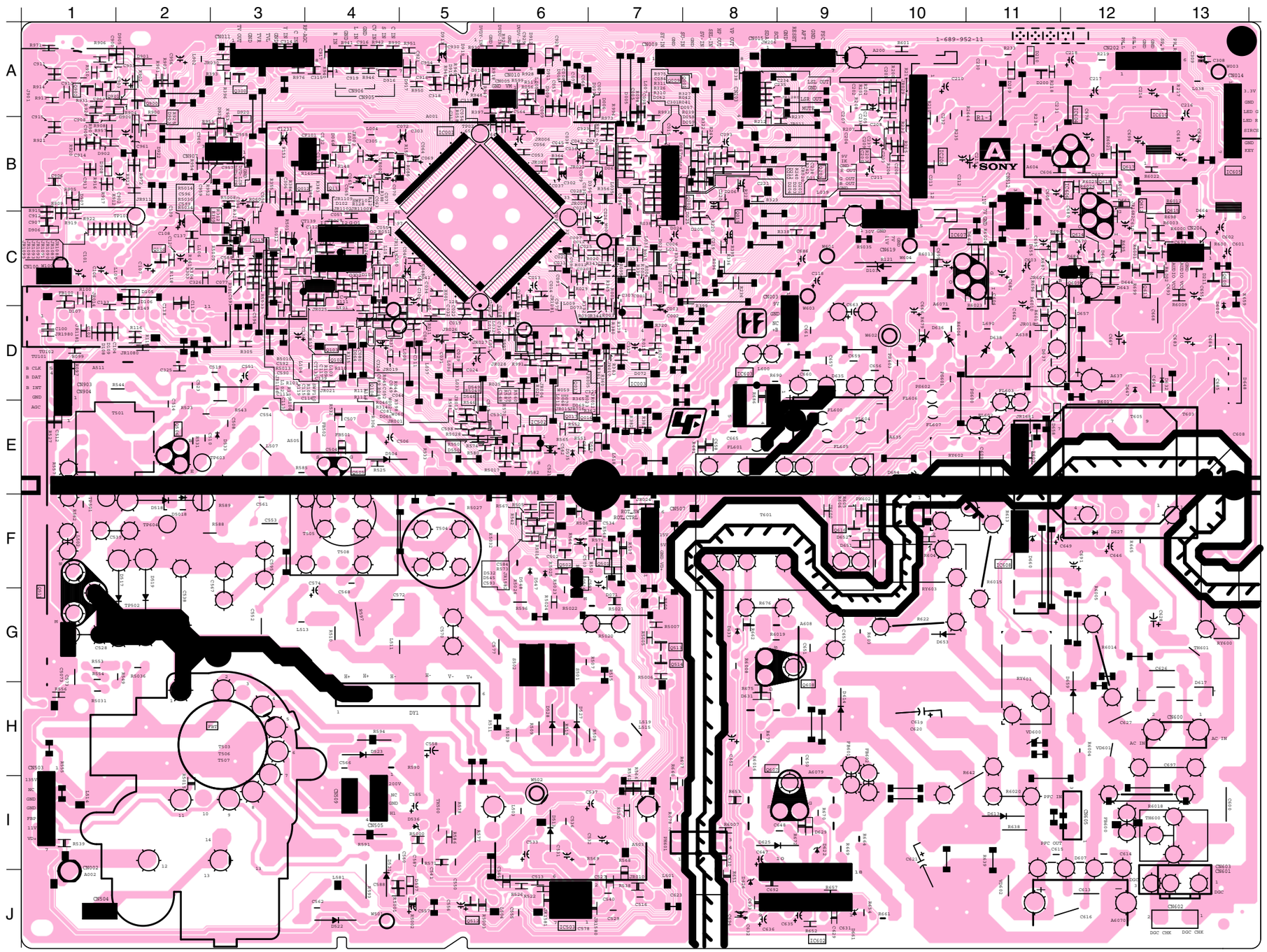
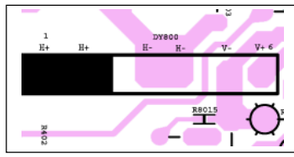
## 4-5. PRINTED WIRING BOARDS AND PARTS LOCATION

### PRINTED WIRING BOARDS

**A** [Processor, Audio, Power Supply, Deflection, Tuner, Jack ]

**– A Board –**




**NOTE:**
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

**A BOARD**

| IC | | D212 | B-9 | D900 | A-2 |
|---|---|---|---|---|---|
| | | D213 | B-9 | D901 | A-2 |
| IC001 | B-5 | D356 | B-7 | D902 | B-1 |
| IC003 | D-7 | D504 | E-4 | D903 | A-2 |
| IC200 | B-10 | D509 | E-7 | D905 | A-2 |
| IC502 | E-6 | D513 | I-6 | D906 | C-1 |
| IC503 | J-6 | D517 | F-2 | D907 | B-1 |
| IC602 | J-9 | D518 | F-2 | D908 | B-1 |
| IC603 | D-8 | D519 | F-2 | D911 | A-6 |
| IC604 | A-12 | D521 | I-4 | D912 | A-6 |
| IC605 | B-13 | D522 | J-4 | D913 | A-5 |
| IC606 | B-12 | D523 | H-4 | D915 | A-5 |
| IC607 | C-10 | D527 | H-6 | D916 | A-4 |
| IC608 | F-11 | D528 | H-6 | D918 | A-5 |
| IC610 | A-13 | D532 | F-5 | D919 | A-5 |
| | | D533 | E-3 | D920 | A-3 |
| **DIODE** | | D535 | E-6 | D922 | A-3 |
| | | D536 | I-5 | D5018 | F-2 |
| D002 | C-7 | D537 | J-5 | **TRANSISTOR** | |
| D003 | C-7 | D545 | F-5 | | |
| D005 | A-7 | D546 | D-5 | Q001 | A-8 |
| D006 | A-7 | D547 | F-6 | Q009 | A-7 |
| D007 | A-7 | D548 | F-6 | Q013 | D-6 |
| D008 | A-6 | D549 | D-5 | Q016 | E-6 |
| D009 | A-6 | D550 | E-5 | Q011 | B-4 |
| D023 | C-7 | D600 | C-13 | Q012 | B-3 |
| D024 | C-7 | D607 | I-12 | Q015 | B-8 |
| D025 | C-8 | D613 | I-11 | Q017 | E-6 |
| D057 | A-8 | D614 | H-9 | Q100 | C-2 |
| D058 | A-8 | D617 | G-13 | Q102 | D-4 |
| D059 | B-8 | D622 | I-9 | Q103 | D-4 |
| D060 | B-7 | D625 | I-8 | Q104 | D-4 |
| D061 | B-7 | D626 | J-8 | Q202 | B-8 |
| D062 | A-7 | D627 | F-12 | Q203 | B-9 |
| D064 | D-4 | D629 | I-9 | Q300 | A-3 |
| D065 | E-4 | D631 | H-8 | Q501 | F-7 |
| D066 | B-4 | D632 | D-13 | Q502 | F-6 |
| D067 | B-8 | D633 | G-8 | Q505 | E-4 |
| D068 | D-6 | D635 | D-9 | Q506 | E-2 |
| D069 | E-6 | D636 | D-10 | Q511 | G-1 |
| D070 | D-6 | D637 | D-11 | Q512 | J-5 |
| D071 | G-7 | D638 | D-11 | Q513 | G-7 |
| D072 | D-7 | D640 | C-12 | Q514 | G-7 |
| D073 | D-6 | D643 | C-12 | Q515 | C-3 |
| D100 | C-4 | D644 | C-12 | Q516 | F-6 |
| D102 | B-4 | D647 | D-12 | Q600 | C-13 |
| D103 | C-10 | D648 | D-13 | Q607 | H-8 |
| D105 | C-2 | D651 | F-9 | Q608 | G-9 |
| D106 | C-1 | D652 | F-9 | Q609 | C-12 |
| D107 | D-1 | D653 | G-10 | Q612 | B-12 |
| D108 | D-1 | D654 | E-10 | Q613 | C-12 |
| D109 | D-1 | D655 | C-11 | Q614 | C-12 |
| D200 | A-11 | D657 | D-12 | Q615 | B-13 |
| D202 | B-9 | D658 | E-11 | Q616 | F-9 |
| D203 | B-9 | D659 | G-12 | Q617 | B-12 |
| D204 | B-9 | D660 | F-11 | Q618 | B-12 |
| D206 | B-8 | D661 | J-9 | Q900 | A-2 |
| D209 | A-11 | D662 | B-12 | Q901 | A-1 |
| D210 | A-11 | D663 | C-11 | Q902 | A-1 |
| D211 | C-13 | D664 | B-13 | | |

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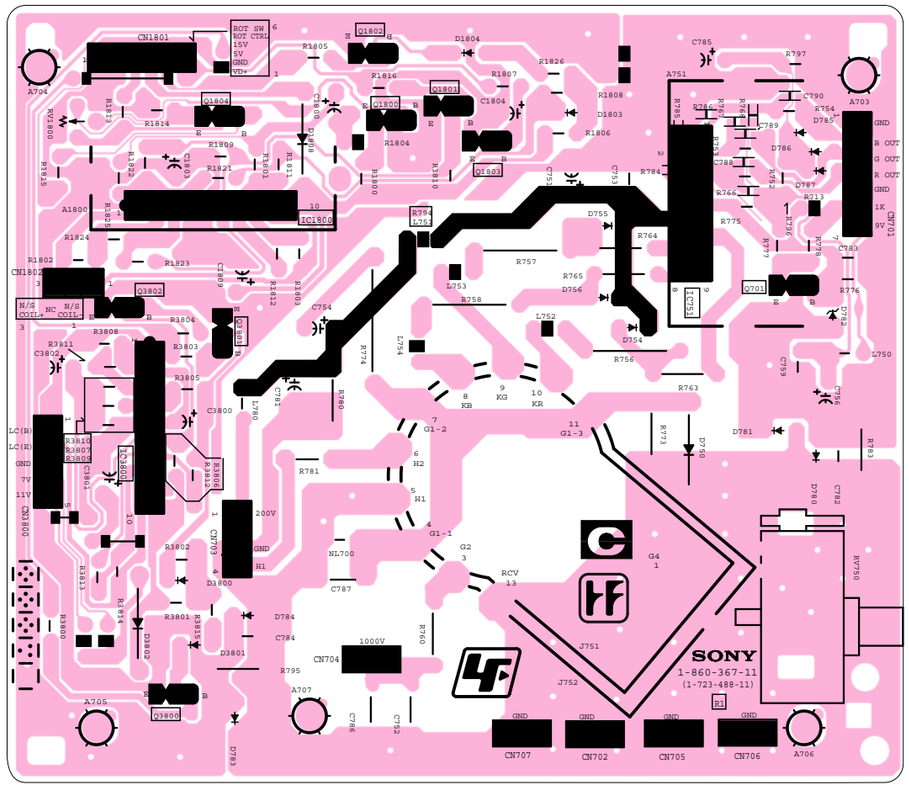
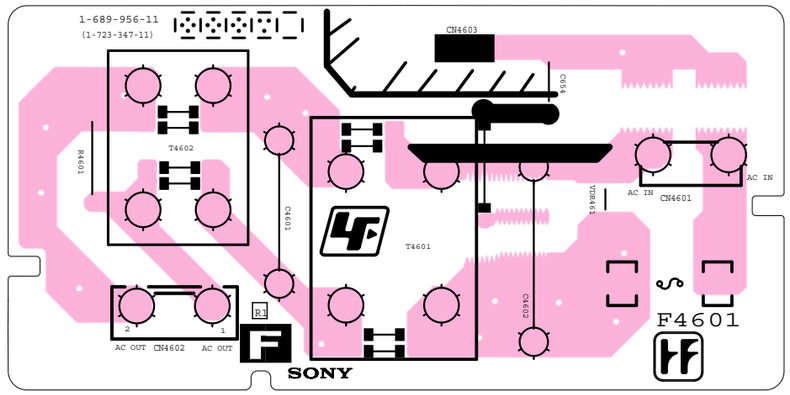
## PRINTED WIRING BOARDS

**C** [RGB AMP, Rotation, Landing Correction] **H1** [Front Panel] **F** [Cispr] **H2** [Front panel]

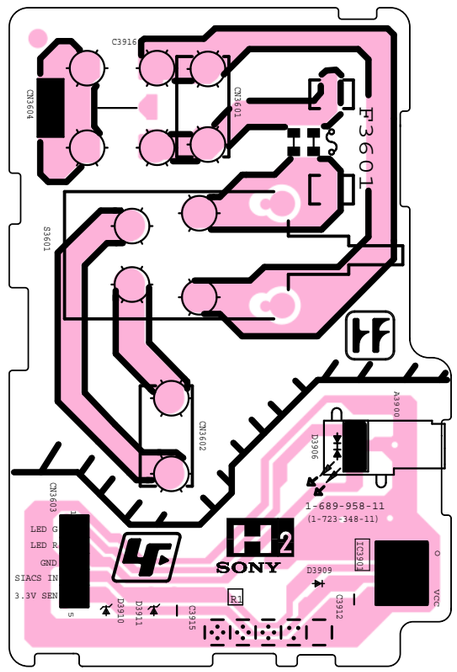
### – C board –



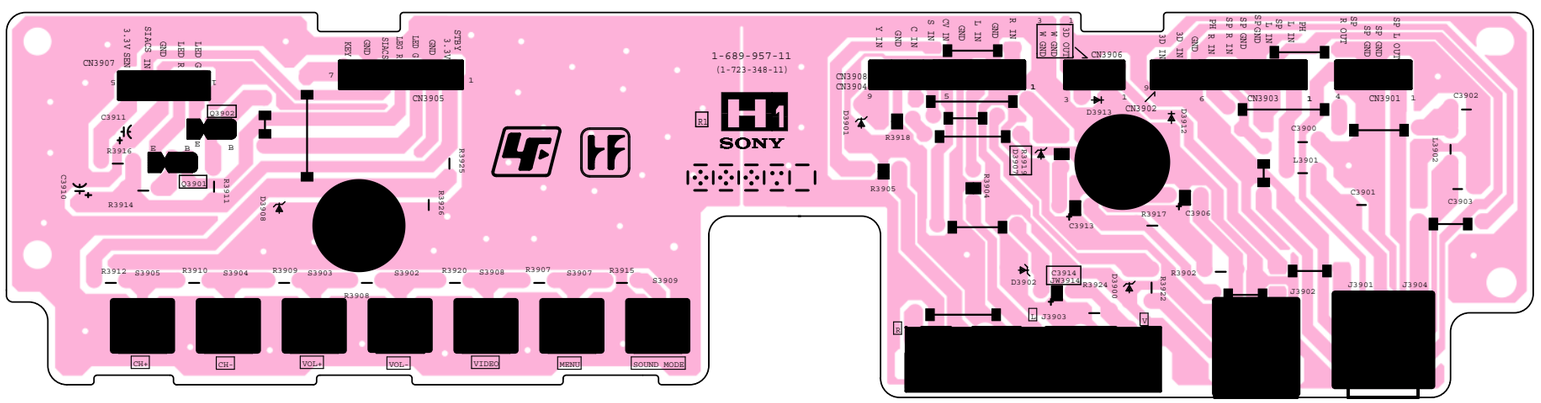

### – F board –




### – H2 board –



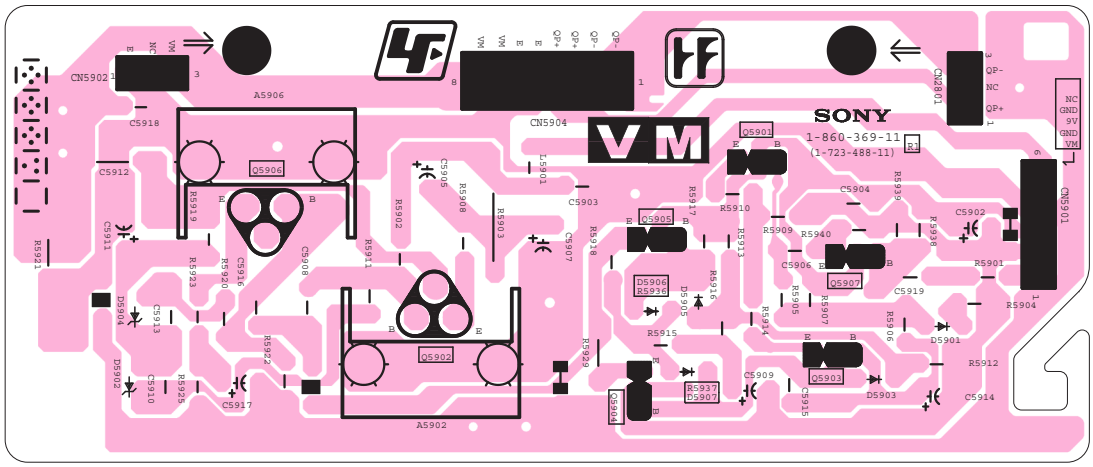

### – H1 board –



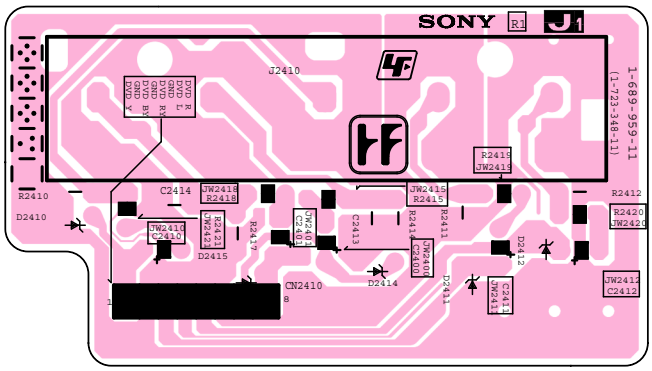
## PRINTED WIRING BOARDS

**VM** [Velocity Modulation]  **J1** [DVD Terminal]

**– VM board –**

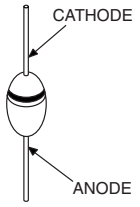
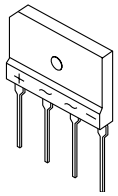
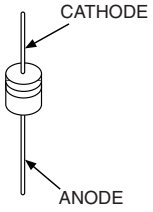
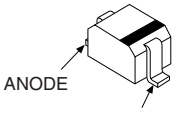
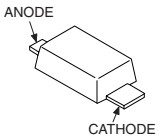



**– J1 board –**

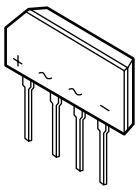
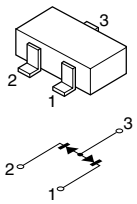
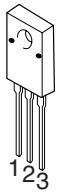
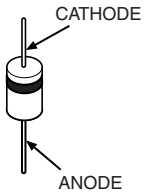
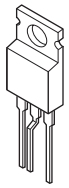
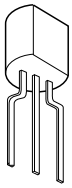


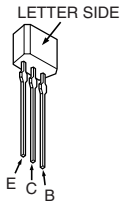
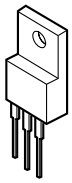
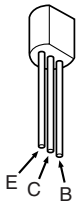
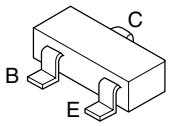
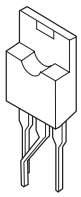
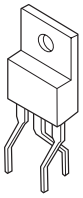
## 4-6. SEMICONDUCTORS

DIODE

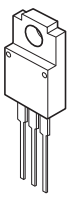
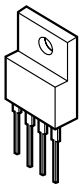
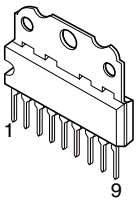
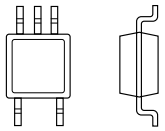
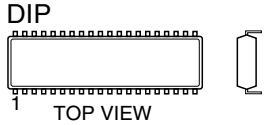
| | | | | | |
|---|---|---|---|---|---|
|  |  |  | |  |  |
| ERC06-15S | D4SB60L<br>D4SBL20U<br>D10SBS4F | HSS82-TJ<br>RD5.6ESB2<br>RD6.8ESB1<br>RD18ESB<br>RD39ESB<br>UPC574J<br>1SS119-25<br>1SS133T-77 | D1NS6<br>EL1Z<br>ERA22-08<br>GP08D<br>RU4AM-T4<br>UF4005PKG23 | DTZ-TT11-15B<br>MMDL914T1<br>RD5.6SB-T1<br>UDZ-TE-17-7.5B | MA2ZD14001S0<br>MA77<br>UDZSTE-179.1B<br>UDZS-TE17-12B |

TRANSISTOR

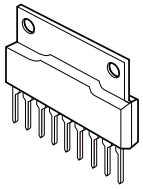
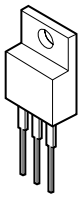
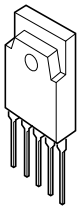
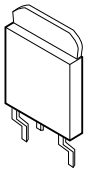
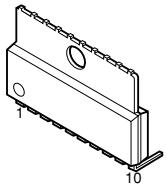
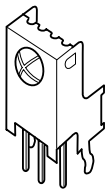
| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| D2B60A-F04<br>STVB40 | DA204K | D10SC4M | FR104-A5 | IRF614 | 2SA1091-O<br>2SC2688-LK<br>2SC3779C-DAA |

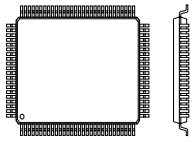
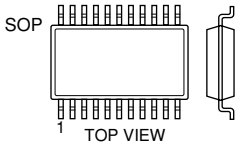
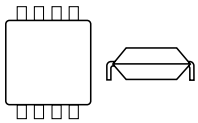
| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| DTC144ESA<br>2SA1175-HFE<br>2SC2785-HFE | 2SA1606-E<br>2SC4159-E | 2SC2458-YGR | MSB709-RT1<br>MSD601-RT1<br>UN2211<br>UN2216<br>2SA1162-G<br>2SD601A-Q-TX | 2SD2634-CA | IRFIB7N50A-LF31 |

IC

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  | |
| BA033FP-E2 | PQ018EF01SZH<br>PQ05RD11 | TDA6108AJF/N1 | BA18BCOWFP-E2 | MCZ3001DA | |

IC

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| AN5276T | NJM78M09FA | TDA8177 | BR24L16F-WE2 | LA6510 | RPM7240-SH5 |

| | | | |
|---|---|---|---|
|  |  <br>Small Outline L-leaded Package<br>Pin 8~98 | |  |
| TDA12017H1/ N1B0B0KJ | NJM2903M | | EK1135 |

# SECTION 5
# EXPLODED VIEWS

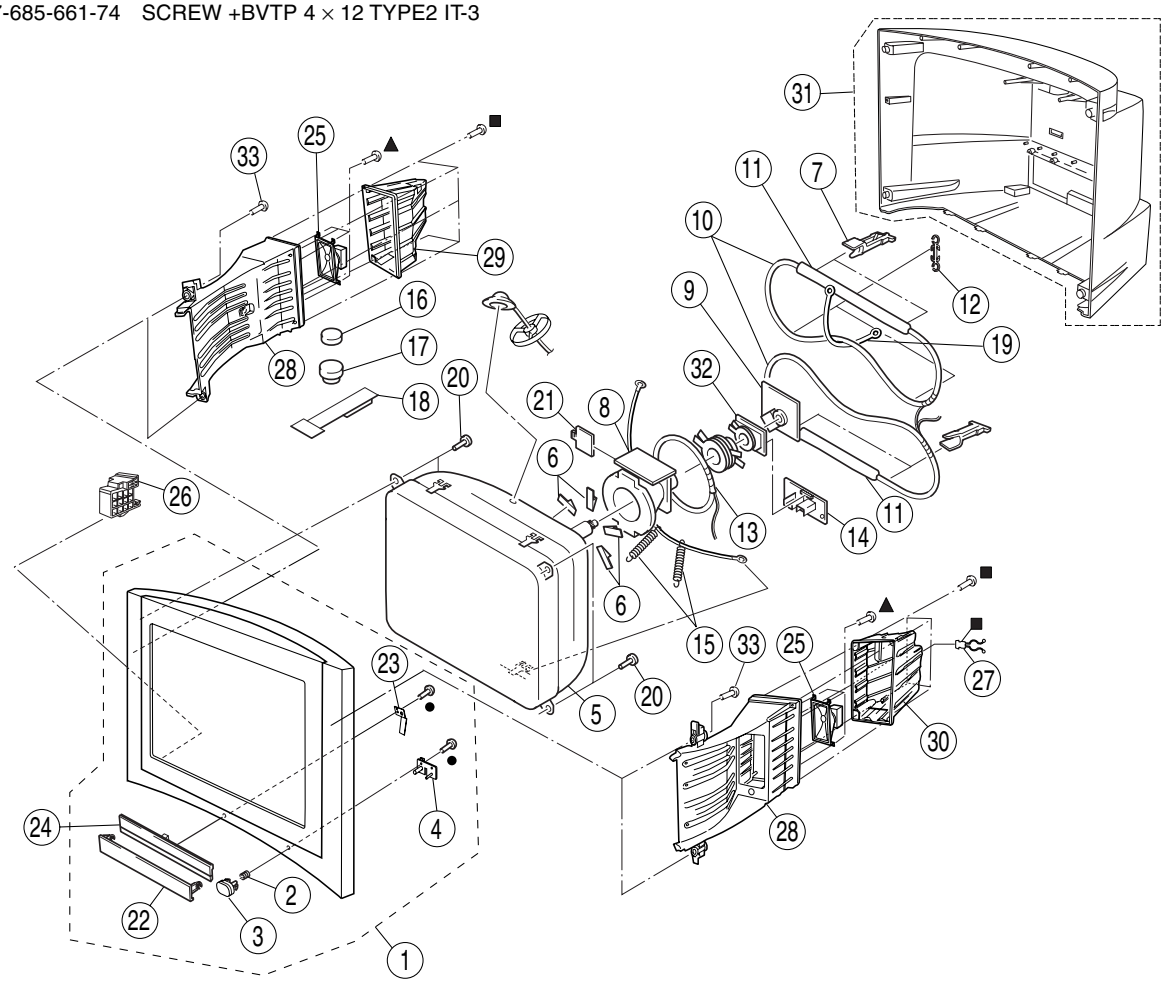
**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

## 5-1. SPEAKER BLOCK AND PICTURE TUBE

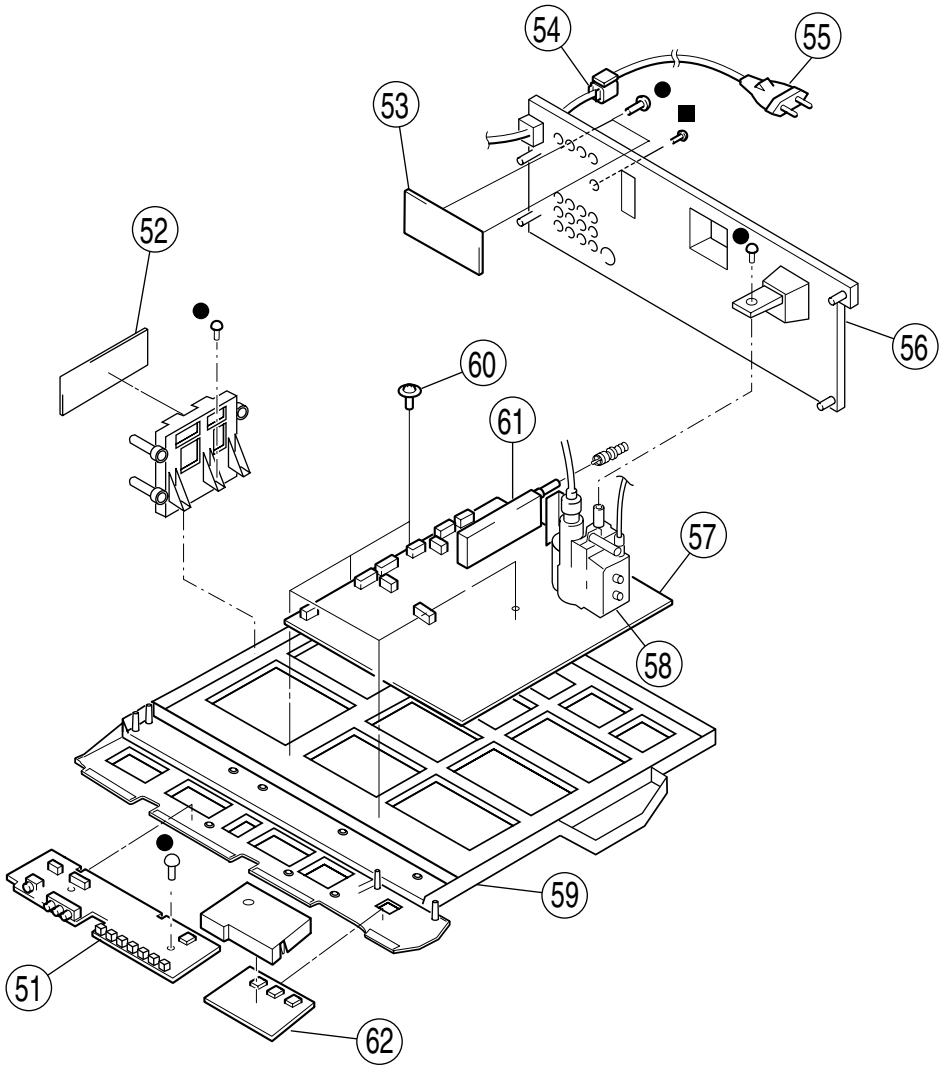
● : 7-685-648-79 SCREW +BVTP 3 × 12 TYPE2 IT-3
■ : 7-685-663-79 SCREW +BVTP 4 × 16 TYPE2 IT-3
▲ : 7-685-661-74 SCREW +BVTP 4 × 12 TYPE2 IT-3




| REF. NO. | | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|---|
| 1 | | X-4042-779-1 | BEZNET ASSY | 2-4,22-24 |
| 2 | | 4-036-405-11 | SPRING COMPRESSION | |
| 3 | | 4-086-448-01 | BUTTON POWER | |
| 4 | * | 4-086-707-01 | GUIDE LIGHT | |
| 5 | ⚠ | 8-733-250-05 | PICTURE TUBE (A60LPN70X) | |
| 6 | | 3-703-961-01 | SPACER DY | |
| 7 | * | 4-065-572-01 | CLIP (25 RSN) DGC | |
| 8 | ⚠ | 1-451-475-11 | DEFLECTION YOKE (Y25RSA) | |
| 9 | * | A-1410-692-A | COMPLETE PWB,C | |
| 10 | ⚠ | 1-419-322-11 | COIL DEGAUSSING | |
| 11 | | 4-063-935-21 | CUSHION (50x550) DGC | |
| 12 | | 4-064-883-03 | HOLDER DGC | |
| 13 | | 1-452-896-11 | COIL NA ROTATION (RT200) | |
| 14 | * | A-1410-174-A | MOUNTED PWB, VM | |
| 15 | | 4-369-318-61 | SPRING TENSION | |
| 16 | | 1-452-032-00 | MAGNET DISC | |
| 17 | | 1-452-094-00 | CIRCULAR DISC MAGNET B | |
| 18 | | 4-051-734-42 | PIECE B (120), CONV, CORRECT | |
| 19 | | 4-079-376-01 | BAND DGC | |
| 20 | | 4-046-765-41 | SCREW TAPPING 7+CROWN WASHER | |
| 21 | | 4-057-714-01 | PIECE ASSY TLH CONVERGENCE | |
| 22 | | 4-088-697-01 | DOOR | |
| 23 | | 4-087-491-11 | SPRING DOOR | |
| 24 | | 4-068-502-41 | CUSHION, DOOR | |
| 25 | | 1-825-220-11 | LOUDSPEAKER (15x6.5CM) | |
| 26 | | 4-085-483-01 | SUPPORT, CRT | |
| 27 | * | 4-082-205-01 | LOCK, PURSE | |
| 28 | * | 4-093-518-01 | DUCT SPEAKER | |
| 29 | * | 4-093-606-01 | BOX (L). SPEAKER | |
| 30 | * | 4-096-280-01 | BOX (R). SPEAKER | |
| 31 | | X-4040-830-2 | REAR COVER ASSY | |
| 32 | | 8-453-021-31 | NA2919-M3 | |
| 33 | | 4-384-096-01 | SCREW (4x16), TAPPING , +P | |

## 5-2. CHASSIS

●: 7-685-648-79 SCREW +BVTP 3 × 12 TYPE2 IT-3
■: 7-685-663-79 SCREW +BVTP 4 × 16 TYPE2 IT-3




| REF. NO. | | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|---|
| 51 | * | A-1410-171-A | MOUNTED PWB, H1 | |
| 52 | * | A-1410-172-A | MOUNTED PWB, F | |
| 53 | * | A-1410-173-A | MOUNTED PWB, J1 | |
| 54 | ⚠ | 4-022-115-51 | HOLDER AC CORD | |
| 55 | ⚠ | 1-757-030-11 | CORD AC POWER (WITH CONNECTOR) | |
| 56 | ⚠ | 4-096-276-01 | BRACKET TERMINAL | |
| 57 | * | A-1302-781-A | COMPLETE PWB, A | |
| 58 | ⚠ | 1-453-284-11 | TRANSFORMER ASSY FLYBACK | |
| | | | (NX-4009//M314) | |
| 59 | ⚠ | 4-096-277-02 | BRACKET MAIN | |
| 60 | | 4-046-797-01 | SCREW (3x12) (+) BVTAP | |
| 61 | | 1-693-636-11 | TUNER (TEDE9) | |
| 62 | * | A-1410-168-A | MOUNTED PWB, H2 | |
| 63 | | 4-302-428-03 | SCREW (WASHER HEAD)(+P 3x12) | |

A

# SECTION 6
# ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : µF, PF : µµF

COILS
- MMH : mH, UH : µH

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| * | A-1302-781-A | COMPLETE PWB, A | |
| | | ********** | |
| | 1-900-704-72 | LEAD ASSY, JUMPER | |
| * | 4-040-983-31 | TERMINAL BOARD (D) | |
| | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A503 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A505 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A506 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A511 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A518 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A604 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A608 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A635 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A637 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A638 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A6070 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A6071 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A6079 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| | | <CAPACITOR> | |
| C001 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C002 | 1-126-947-11 | ELECT 47UF 20.00% 25V | |
| C003 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C005 | 1-164-004-11 | CERAMIC CHIP 0.1UF 10.00% 25V | |
| C006 | 1-126-933-11 | ELECT 100UF 20.00% 16V | |
| C007 | 1-164-004-11 | CERAMIC CHIP 0.1UF 10.00% 25V | |
| C008 | 1-164-004-11 | CERAMIC CHIP 0.1UF 10.00% 25V | |
| C009 | 1-164-004-11 | CERAMIC CHIP 0.1UF 10.00% 25V | |
| C011 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C012 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C013 | 1-126-935-11 | ELECT 470UF 20.00% 16V | |
| C014 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C015 | 1-126-964-11 | ELECT 10UF 20.00% 50V | |
| C018 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C019 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C020 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C021 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C022 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C023 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C024 | 1-104-662-91 | ELECT 22UF 20.00% 25V | |
| C025 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C026 | 1-126-947-11 | ELECT 47UF 20.00% 25V | |
| C028 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C029 | 1-104-662-91 | ELECT 22UF 20.00% 25V | |
| C030 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C031 | 1-126-935-11 | ELECT 470UF 20.00% 16V | |
| C032 | 1-162-915-11 | CERAMIC CHIP 10PF 0.50PF 50V | |
| C034 | 1-162-915-11 | CERAMIC CHIP 10PF 0.50PF 50V | |
| C036 | 1-104-665-11 | ELECT 100UF 20.00% 25V | |
| C037 | 1-164-505-11 | CERAMIC CHIP 2.2UF 16V | |
| C038 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C041 | 1-162-968-11 | CERAMIC CHIP 0.0047UF 10.00% 50V | |
| C042 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C043 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C044 | 1-164-505-11 | CERAMIC CHIP 2.2UF 16V | |
| C045 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C046 | 1-162-969-11 | CERAMIC CHIP 0.0068UF 10.00% 25V | |
| C047 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C048 | 1-127-715-91 | CERAMIC CHIP 0.22UF 10% 16V | |
| C049 | 1-164-227-11 | CERAMIC CHIP 0.022UF 10.00% 25V | |
| C050 | 1-126-964-11 | ELECT 10UF 20.00% 50V | |
| C052 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C053 | 1-164-227-11 | CERAMIC CHIP 0.022UF 10.00% 25V | |
| C054 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C055 | 1-100-829-31 | CAP, PP FILM (S) 0.15MF | |
| C056 | 1-104-665-11 | ELECT 100UF 20.00% 25V | |
| C057 | 1-162-970-11 | CERAMIC CHIP 0.01UF 10.00% 25V | |
| C058 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C061 | 1-162-967-11 | CERAMIC CHIP 0.0033UF 10.00% 50V | |
| C063 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C064 | 1-126-961-11 | ELECT 2.2UF 20.00% 50V | |
| C065 | 1-126-962-11 | ELECT 3.3UF 20.00% 50V | |
| C069 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C070 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C072 | 1-162-970-11 | CERAMIC CHIP 0.01UF 10.00% 25V | |
| C073 | 1-126-961-11 | ELECT 2.2UF 20.00% 50V | |
| C077 | 1-162-970-11 | CERAMIC CHIP 0.01UF 10.00% 25V | |
| C080 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C081 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C085 | 1-107-826-11 | CERAMIC CHIP 0.1UF 10.00% 16V | |
| C089 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C090 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C091 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C093 | 1-126-933-11 | ELECT 100UF 20.00% 16V | |
| C100 | 1-162-964-11 | CERAMIC CHIP 0.001UF 10.00% 50V | |
| C101 | 1-126-964-11 | ELECT 10UF 20.00% 50V | |
| C102 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C104 | 1-162-927-11 | CERAMIC CHIP 100PF 5.00% 50V | |
| C106 | 1-126-964-11 | ELECT 10UF 20.00% 50V | |
| C107 | 1-126-935-11 | ELECT 470UF 20.00% 16V | |
| C108 | 1-126-935-11 | ELECT 470UF 20.00% 16V | |
| C109 | 1-162-968-11 | CERAMIC CHIP 0.0047UF 10.00% 50V | |
| C111 | 1-162-970-11 | CERAMIC CHIP 0.01UF 10.00% 25V | |
| C112 | 1-162-910-11 | CERAMIC CHIP 5PF 0.25PF 50V | |
| C113 | 1-162-968-11 | CERAMIC CHIP 0.0047UF 10.00% 50V | |
| C115 | 1-162-968-11 | CERAMIC CHIP 0.0047UF 10.00% 50V | |
| C116 | 1-162-968-11 | CERAMIC CHIP 0.0047UF 10.00% 50V | |
| C117 | 1-162-924-11 | CERAMIC CHIP 56PF 5.00% 50V | |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C118 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C119 | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C120 | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C136 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C137 | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C138 | 1-163-009-91 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C139 | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C200 | 1-125-837-91 | CERAMIC CHIP | 1UF | 10% | 6.3V |
| C201 | 1-125-837-91 | CERAMIC CHIP | 1UF | 10% | 6.3V |
| C202 | 1-165-176-11 | CERAMIC CHIP | 0.047UF | 10.00% | 16V |
| C203 | 1-165-176-11 | CERAMIC CHIP | 0.047UF | 10.00% | 16V |
| C204 | 1-130-495-00 | MYLAR | 0.1UF | 5.00% | 50V |
| C205 | 1-126-959-11 | ELECT | 0.47UF | 20.00% | 50V |
| C206 | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C207 | 1-130-495-00 | MYLAR | 0.1UF | 5.00% | 50V |
| C208 | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C209 | 1-126-959-11 | ELECT | 0.47UF | 20.00% | 50V |
| C210 | 1-126-968-11 | ELECT | 100UF | 20.00% | 50V |
| C211 | 1-126-963-11 | ELECT | 4.7UF | 20.00% | 50V |
| C213 | 1-115-339-11 | CERAMIC CHIP | 0.1UF | 10.00% | 50V |
| C214 | 1-126-942-61 | ELECT | 1000UF | 20.00% | 25V |
| C215 | 1-128-550-11 | ELECT | 2200UF | 20.00% | 50V |
| C216 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C217 | 1-126-942-61 | ELECT | 1000UF | 20.00% | 25V |
| C218 | 1-126-965-91 | ELECT | 22UF | 20.00% | 50V |
| C219 | 1-126-934-11 | ELECT | 220UF | 20.00% | 16V |
| C220 | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C231 | 1-137-374-11 | MYLAR | 0.047UF | 5.00% | 50V |
| C232 | 1-137-374-11 | MYLAR | 0.047UF | 5.00% | 50V |
| C234 | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C235 | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C238 | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C300 | 1-127-715-91 | CERAMIC CHIP | 0.22UF | 10% | 16V |
| C301 | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C302 | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C303 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C304 | 1-104-665-11 | ELECT | 100UF | 20.00% | 25V |
| C305 | 1-104-665-11 | ELECT | 100UF | 20.00% | 25V |
| C306 | 1-107-826-11 | CERAMIC CHIP | 0.1UF | 10.00% | 16V |
| C308 | 1-107-826-11 | CERAMIC CHIP | 0.1UF | 10.00% | 16V |
| C309 | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C311 | 1-107-826-11 | CERAMIC CHIP | 0.1UF | 10.00% | 16V |
| C316 | 1-125-891-11 | CERAMIC CHIP | 0.47UF | 10.00% | 10V |
| C321 | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C322 | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C323 | 1-107-826-11 | CERAMIC CHIP | 0.1UF | 10.00% | 16V |
| C324 | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C327 | 1-127-715-91 | CERAMIC CHIP | 0.22UF | 10% | 16V |
| C502 | 1-163-145-00 | CERAMIC CHIP | 0.0015UF | 5.00% | 50V |
| C506 | 1-107-638-11 | ELECT | 33UF | 20.00% | 160V |
| C507 | 1-161-830-00 | CERAMIC | 0.0047UF | | 500V |
| C510 | 1-102-112-00 | CERAMIC | 330PF | 10.00% | 50V |
| C513 | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C514 | 1-106-383-00 | MYLAR | 0.047UF | 10.00% | 200V |
| C517 | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C519 | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C523 | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C527 | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C528 | 1-162-116-00 | CERAMIC | 680PF | 10.00% | 2KV |
| C530 | 1-137-372-11 | MYLAR | 0.022UF | 5.00% | 50V |
| C531 | 1-107-903-11 | ELECT | 2.2UF | 20.00% | 50V |
| C532 | 1-126-941-11 | ELECT | 470UF | 20.00% | 25V |

| REF NO. | | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|---|
| C533 | | 1-126-941-11 | ELECT | 470UF | 20.00% | 25V |
| C536 | | 1-130-495-00 | MYLAR | 0.1UF | 5.00% | 50V |
| C537 | | 1-107-911-11 | ELECT | 220UF | 20.00% | 50V |
| C538 | ⚠ | 1-117-651-21 | FILM | 20000PF | 3.00% | 1.2KV |
| C539 | ⚠ | 1-129-723-00 | FILM | 0.056UF | 5.00% | 630V |
| C540 | | 1-136-171-00 | FILM | 0.33UF | 5.00% | 50V |
| C546 | | 1-165-319-11 | CERAMIC CHIP | 0.1UF | | 50V |
| C550 | | 1-106-220-00 | MYLAR | 0.1UF | 10.00% | 100V |
| C551 | | 1-126-960-11 | ELECT | 1UF | 20.00% | 50V |
| C552 | | 1-162-116-00 | CERAMIC | 680PF | 10.00% | 2KV |
| C553 | | 1-162-116-00 | CERAMIC | 680PF | 10.00% | 2KV |
| C554 | | 1-106-359-00 | MYLAR | 0.0047UF | 5.00% | 200V |
| C556 | | 1-128-528-11 | ELECT | 470UF | 20.00% | 25V |
| C557 | | 1-126-941-11 | ELECT | 470UF | 20.00% | 25V |
| C558 | | 1-165-441-81 | ELECT | 33UF | 20% | 160V |
| C559 | | 1-164-227-11 | CERAMIC CHIP | 0.022UF | 10.00% | 25V |
| C561 | | 1-129-708-91 | FILM | 0.0033UF | 5.00% | 630V |
| C565 | | 1-107-645-11 | ELECT | 22UF | 20.00% | 160V |
| C567 | ⚠ | 1-117-813-91 | FILM | 0.75UF | 5.00% | 250V |
| C568 | | 1-102-228-00 | CERAMIC | 470PF | 10.00% | 500V |
| C570 | ⚠ | 1-115-521-11 | FILM | 0.82UF | 5.00% | 250V |
| C572 | | 1-117-661-71 | FILM | 0.15UF | 5.00% | 250V |
| C574 | | 1-107-635-11 | ELECT | 4.7UF | 20.00% | 160V |
| C577 | | 1-106-395-00 | MYLAR | 0.15UF | 10.00% | 200V |
| C578 | | 1-162-964-11 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C584 | | 1-162-927-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C587 | | 1-130-777-00 | MYLAR | 0.1UF | 5.00% | 100V |
| C588 | | 1-163-009-91 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C590 | | 1-162-968-11 | CERAMIC CHIP | 0.0047UF | 10.00% | 50V |
| C591 | | 1-216-864-11 | SHORT CHIP | 0 | | |
| C592 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C593 | | 1-162-927-11 | CERAMIC CHIP | 100PF | 5.00% | 50V |
| C594 | | 1-162-970-11 | CERAMIC CHIP | 0.01UF | 10.00% | 25V |
| C596 | | 1-162-923-11 | CERAMIC CHIP | 47PF | 5.00% | 50V |
| C597 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C598 | | 1-125-889-91 | CERAMIC CHIP | 2.2UF | 10% | 10V |
| C600 | ⚠ | 1-165-529-11 | MYLAR | 0.22UF | 10 | 275V |
| C601 | | 1-126-934-11 | ELECT | 220UF | 20.00% | 16V |
| C606 | | 1-163-038-91 | CERAMIC CHIP | 0.1UF | | 25V |
| C608 | ⚠ | 1-119-892-51 | CERAMIC | 470PF | 10.00% | 250V |
| C609 | ⚠ | 1-119-892-51 | CERAMIC | 470PF | 10.00% | 250V |
| C610 | | 1-126-959-11 | ELECT | 0.47UF | 20.00% | 50V |
| C613 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C614 | | 1-161-830-00 | CERAMIC | 0.0047UF | | 500V |
| C615 | | 1-161-830-00 | CERAMIC | 0.0047UF | | 500V |
| C616 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C619 | | 1-117-753-11 | ELECT(BLOCK) | 470UF | 20.00% | 450V |
| C626 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C627 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C628 | | 1-107-680-91 | ELECT | 22UF | 20.00% | 450V |
| C629 | | 1-107-726-91 | CERAMIC CHIP | 0.01UF | 10.00% | 16V |
| C631 | | 1-136-479-11 | FILM | 0.001UF | 2.00% | 50V |
| C632 | | 1-126-963-11 | ELECT | 4.7UF | 20.00% | 50V |
| C633 | | 1-163-275-11 | CERAMIC CHIP | 0.001UF | 5.00% | 50V |
| C635 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C636 | | 1-126-963-11 | ELECT | 4.7UF | 20.00% | 50V |
| C637 | | 1-163-009-91 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C638 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C639 | | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C647 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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| REF NO. | | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|---|
| C648 | | 1-136-497-81 | FILM | 0.1UF | 5.00% | 50V |
| C649 | | 1-104-665-11 | ELECT | 100UF | 20.00% | 25V |
| C650 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C651 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C652 | | 1-126-949-11 | ELECT | 220UF | 20.00% | 35V |
| C653 | | 1-165-953-11 | FILM | 47000PF | 3% | 800V |
| C654 | ⚠ | 1-161-830-00 | CERAMIC | 0.0047UF | 99% | 500V |
| C655 | | 1-126-952-11 | ELECT | 1000UF | 20.00% | 35V |
| C656 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C657 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C658 | | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C659 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C660 | | 1-125-969-91 | CERAMIC | 680PF | 10.00% | 1KV |
| C661 | | 1-104-330-91 | CERAMIC | 470PF | 10.00% | 1KV |
| C662 | | 1-126-936-11 | ELECT | 3300UF | 20.00% | 16V |
| C663 | | 1-110-626-11 | ELECT | 330UF | 20.00% | 160V |
| C666 | | 1-126-936-11 | ELECT | 3300UF | 20.00% | 16V |
| C667 | | 1-128-550-11 | ELECT | 2200UF | 20.00% | 50V |
| C670 | | 1-126-960-11 | ELECT | 1UF | 20.00% | 50V |
| C678 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C679 | | 1-125-891-11 | CERAMIC CHIP | 0.47UF | 10.00% | 10V |
| C680 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C681 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C682 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C683 | | 1-126-971-11 | ELECT | 470UF | 20.00% | 50V |
| C686 | | 1-126-934-11 | ELECT | 220UF | 20.00% | 16V |
| C690 | | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C692 | | 1-163-021-91 | CERAMIC CHIP | 0.01UF | 10.00% | 50V |
| C695 | | 1-104-665-11 | ELECT | 100UF | 20.00% | 25V |
| C696 | | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C697 | ⚠ | 1-165-529-11 | MYLAR | 0.22UF | 10 | 275V |
| C698 | | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C699 | | 1-104-662-91 | ELECT | 22UF | 20.00% | 25V |
| C900 | | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C901 | | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C902 | | 1-126-957-11 | ELECT | 0.22UF | 20.00% | 50V |
| C903 | | 1-126-935-11 | ELECT | 470UF | 20.00% | 16V |
| C906 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C907 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C908 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C909 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C910 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C911 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C912 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C913 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C914 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C915 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C916 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C917 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C918 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C919 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C921 | | 1-127-715-91 | CERAMIC CHIP | 0.22UF | 10% | 16V |
| C928 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C929 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C930 | | 1-126-963-11 | ELECT | 4.7UF | 20.00% | 50V |
| C956 | | 1-126-933-11 | ELECT | 100UF | 20.00% | 16V |
| C957 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C958 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |
| C959 | | 1-164-315-11 | CERAMIC CHIP | 470PF | 5.00% | 50V |
| C960 | | 1-164-346-11 | CERAMIC CHIP | 1UF | | 16V |

| REF NO. | | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|---|
| C961 | | 1-126-957-11 | ELECT | 0.22UF | 20.00% | 50V |
| C962 | | 1-164-505-11 | CERAMIC CHIP | 2.2UF | | 16V |
| C975 | | 1-162-964-11 | CERAMIC CHIP | 0.001UF | 10.00% | 50V |
| C5073 | | 1-106-375-12 | MYLAR | 0.022UF | 99% | 200V |
| | | | <CONNECTOR> | | | |
| CN004 | * | 1-564-510-11 | PLUG, CONNECTOR 7P | | | |
| CN010 | * | 1-564-508-11 | PLUG, CONNECTOR 5P | | | |
| CN014 | * | 1-564-510-11 | PLUG, CONNECTOR 7P | | | |
| CN100 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN202 | * | 1-564-509-11 | PLUG, CONNECTOR 6P | | | |
| CN507 | * | 1-564-509-11 | PLUG, CONNECTOR 6P | | | |
| CN600 | *⚠ | 1-580-843-11 | PIN, CONNECTOR (POWER) | | | |
| CN602 | * | 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P | | | |
| CN603 | * | 1-691-134-11 | PIN, CONNECTOR (PC BOARD) 2P | | | |
| CN903 | * | 1-785-608-11 | PIN, CONNECTOR 4P | | | |
| CN906 | * | 1-564-508-11 | PLUG, CONNECTOR 5P | | | |
| CN907 | * | 1-564-506-11 | PLUG, CONNECTOR 3P | | | |
| | | | <TRIMMER> | | | |
| CT139 | | 1-767-775-22 | TRAP, CERAMIC | | | |
| | | | <DIODE> | | | |
| D002 | | 8-719-081-97 | MMDL914T1 | | | |
| D003 | | 8-719-081-97 | MMDL914T1 | | | |
| D023 | | 8-719-069-60 | UDZSTE-179.1B | | | |
| D024 | | 8-719-069-60 | UDZSTE-179.1B | | | |
| D025 | | 8-719-069-60 | UDZSTE-179.1B | | | |
| D057 | | 8-719-081-97 | MMDL914T1 | | | |
| D058 | | 8-719-081-97 | MMDL914T1 | | | |
| D059 | | 8-719-081-97 | MMDL914T1 | | | |
| D060 | | 8-719-056-84 | UDZ-TE-17-7.5B | | | |
| D061 | | 8-719-081-97 | MMDL914T1 | | | |
| D062 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D064 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D065 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D066 | | 8-719-081-97 | MMDL914T1 | | | |
| D068 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D071 | | 8-719-081-97 | MMDL914T1 | | | |
| D072 | | 8-719-081-97 | MMDL914T1 | | | |
| D073 | | 8-719-081-97 | MMDL914T1 | | | |
| D100 | | 8-719-421-40 | MA77 | | | |
| D103 | | 8-759-157-40 | UPC574J | | | |
| D108 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D109 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D200 | | 8-719-914-42 | DA204K | | | |
| D201 | | 8-719-081-97 | MMDL914T1 | | | |
| D202 | | 8-719-081-97 | MMDL914T1 | | | |
| D203 | | 8-719-081-97 | MMDL914T1 | | | |
| D204 | | 8-719-081-97 | MMDL914T1 | | | |
| D205 | | 8-719-081-97 | MMDL914T1 | | | |
| D212 | | 8-719-081-97 | MMDL914T1 | | | |
| D213 | | 8-719-081-97 | MMDL914T1 | | | |
| D356 | | 8-719-081-97 | MMDL914T1 | | | |
| D504 | | 8-719-075-05 | DIODE FR104-A5 | | | |
| D509 | | 8-719-036-94 | RD5.6SB-T1 | | | |
| D513 | | 8-719-302-43 | EL1Z | | | |
| D517 | | 8-719-945-80 | ERC06-15S | | | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| D519 | 8-719-945-80 | ERC06-15S | |
| D521 | 8-719-302-43 | EL1Z | |
| D523 | 8-719-302-43 | EL1Z | |
| D527 | 8-719-908-03 | GP08D | |
| D528 | 8-719-908-03 | GP08D | |
| D532 | 8-719-081-97 | MMDL914T1 | |
| D533 | 8-719-911-19 | 1SS119-25 | |
| D536 | 8-719-109-89 | RD5.6ESB2 | |
| D537 | 8-719-081-97 | MMDL914T1 | |
| D545 | 8-719-081-97 | MMDL914T1 | |
| D547 | 8-719-991-33 | 1SS133T-77 | |
| D548 | 8-719-991-33 | 1SS133T-77 | |
| D600 | 8-719-911-19 | 1SS119-25 | |
| D607 | 8-719-510-53 | D4SB60L | |
| D617 | 8-719-077-76 | D2SB60A-F04 | |
| D622 | 8-719-072-70 | MA2ZD14001S0 | |
| D625 | 8-719-979-64 | UF4005PKG23 | |
| D626 | 8-719-110-39 | RD15ES-B1 | |
| D627 | 6-500-567-21 | DIODE 10ERB20-TB5 | |
| D629 | 8-719-978-65 | DTZ-TT11-15B | |
| D631 | 8-719-978-65 | DTZ-TT11-15B | |
| D632 | 8-719-032-12 | D1NS6 | |
| D633 | 8-719-063-73 | DIODE D1NL20U-TR | |
| D635 | 8-719-050-18 | D4SBL20U | |
| D636 | 8-719-510-12 | D10SC4M | |
| D637 | 8-719-052-92 | D10SBS4F | |
| D638 | 8-719-510-12 | D10SC4M | |
| D640 | 8-719-110-47 | RD18ESB | |
| D643 | 8-719-081-97 | MMDL914T1 | |
| D644 | 8-719-081-97 | MMDL914T1 | |
| D647 | 8-719-063-73 | DIODE D1NL20U-TR | |
| D651 | 8-719-081-97 | MMDL914T1 | |
| D652 | 8-719-083-82 | DIODE UDZS-TE17-12B | |
| D653 | 8-719-948-45 | ERA22-08 | |
| D654 | 8-719-109-96 | RD6.8ES-B1 | |
| D655 | 8-719-081-97 | MMDL914T1 | |
| D657 | 8-719-081-97 | MMDL914T1 | |
| D658 | 8-719-083-82 | DIODE UDZS-TE17-12B | |
| D661 | 8-719-110-39 | RD15ES-B1 | |
| D662 | 8-719-072-70 | MA2ZD14001S0 | |
| D663 | 8-719-081-97 | MMDL914T1 | |
| D664 | 8-719-991-33 | 1SS133T-77 | |
| D665 | 8-719-083-73 | DIODE UDZSTE-1736B | |
| D900 | 8-719-036-94 | RD5.6SB-T1 | |
| D901 | 8-719-069-60 | UDZSTE-179.1B | |
| D902 | 8-719-036-94 | RD5.6SB-T1 | |
| D903 | 8-719-036-94 | RD5.6SB-T1 | |
| D905 | 8-719-069-60 | UDZSTE-179.1B | |
| D906 | 8-719-036-94 | RD5.6SB-T1 | |
| D907 | 8-719-036-94 | RD5.6SB-T1 | |
| D908 | 8-719-036-94 | RD5.6SB-T1 | |
| D911 | 8-719-036-94 | RD5.6SB-T1 | |
| D912 | 8-719-036-94 | RD5.6SB-T1 | |
| D913 | 8-719-036-94 | RD5.6SB-T1 | |
| D915 | 8-719-036-94 | RD5.6SB-T1 | |
| D916 | 8-719-036-94 | RD5.6SB-T1 | |
| D917 | 8-719-036-94 | RD5.6SB-T1 | |
| D920 | 8-719-036-94 | RD5.6SB-T1 | |
| D921 | 8-719-036-94 | RD5.6SB-T1 | |
| D922 | 8-719-036-94 | RD5.6SB-T1 | |
| D5018 | 8-719-053-32 | FMU-G16S | |

| REF NO. | | PART NO. | DESCRIPTION | | REMARK |
|---|---|---|---|---|---|
| | | | <CONNECTOR> | | |
| DY1 | * | 1-580-798-11 | CONNECTOR PIN (DY) 6P | | |
| | | | <FERRITE BEAD> | | |
| FB100 | | 1-414-229-11 | FERRITE | 0UH | |
| FB501 | | 1-410-397-21 | FERRITE | 1.1UH | |
| FB502 | | 1-410-397-21 | FERRITE | 1.1UH | |
| FB600 | | 1-410-397-21 | FERRITE | 1.1UH | |
| FB601 | | 1-412-911-31 | FERRITE | 0UH | |
| FB602 | | 1-412-911-31 | FERRITE | 0UH | |
| | | | <FILTER> | | |
| FL600 | | 1-239-358-21 | FILTER, NOISE | | |
| FL601 | | 1-239-358-21 | FILTER, NOISE | | |
| FL602 | ⚠ | 1-533-597-41 | IC LINK | 5A | 90V |
| FL603 | ⚠ | 1-533-597-41 | IC LINK | 5A | 90V |
| FL604 | | 1-239-358-21 | FILTER, NOISE | | |
| FL605 | | 1-239-358-21 | FILTER, NOISE | | |
| FL606 | | 1-239-358-21 | FILTER, NOISE | | |
| FL607 | | 1-239-358-21 | FILTER, NOISE | | |
| | | | <IC> | | |
| IC001 | | 6-705-436-01 | IC TDA12017H1/N1B0B0KJ | | |
| IC003 | | 6-704-004-01 | IC BR24L16F-WE2 | | |
| IC200 | | 6-703-475-01 | IC AN5276T | | |
| IC502 | | 8-759-700-07 | NJM2903M | | |
| IC503 | | 8-759-339-59 | TDA8177 | | |
| IC602 | | 8-759-670-30 | MCZ3001D | | |
| IC603 | | 6-704-264-01 | IC EK1135 | | |
| IC604 | | 8-759-701-59 | NJM78M09FA | | |
| IC605 | | 8-759-460-72 | BA033FP-E2 | | |
| IC606 | | 6-703-478-01 | IC PQ018EF01SZH | | |
| IC607 | | 8-759-471-81 | PQ05RD11 | | |
| IC610 | | 6-702-987-01 | IC BA18BCOWFP-E2 | | |
| | | | <JACK> | | |
| J901 | | 1-817-850-11 | PHONO JACK 9P | | |
| | | | <CHIP CONDUCTOR> | | |
| JR001 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR002 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR003 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR004 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR006 | | 1-216-295-91 | SHORT CHIP | 0 | |
| JR007 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR008 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR009 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR010 | | 1-216-295-91 | SHORT CHIP | 0 | |
| JR011 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR013 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR014 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR016 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR017 | | 1-216-864-11 | SHORT CHIP | 0 | |
| JR018 | | 1-216-864-11 | SHORT CHIP | 0 | |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**A**

| REF NO. | PART NO. | DESCRIPTION | | REMARK |
|---|---|---|---|---|
| JR019 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR020 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR021 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR022 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR024 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR025 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR026 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR027 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR028 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR029 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR030 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR600 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR602 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR911 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR1081 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR1135 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR1181 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR1580 | 1-216-295-91 | SHORT CHIP | 0 | |
| JR1581 | 1-216-295-91 | SHORT CHIP | 0 | |
| JR1582 | 1-216-295-91 | SHORT CHIP | 0 | |
| JR1681 | 1-216-864-11 | SHORT CHIP | 0 | |
| JR1980 | 1-216-864-11 | SHORT CHIP | 0 | |
| | | <COIL> | | |
| L003 | 1-414-856-11 | INDUCTOR | 10UH | |
| L004 | 1-414-187-11 | INDUCTOR | 47UH | |
| L005 | 1-469-525-91 | INDUCTOR | 10UH | |
| L006 | 1-414-856-11 | INDUCTOR | 10UH | |
| L007 | 1-414-856-11 | INDUCTOR | 10UH | |
| L008 | 1-414-856-11 | INDUCTOR | 10UH | |
| L009 | 1-414-856-11 | INDUCTOR | 10UH | |
| L010 | 1-469-525-91 | INDUCTOR | 10UH | |
| L011 | 1-412-058-11 | INDUCTOR | 10UH | |
| L012 | 1-469-525-91 | INDUCTOR | 10UH | |
| L013 | 1-469-525-91 | INDUCTOR | 10UH | |
| L031 | 1-469-525-91 | INDUCTOR | 10UH | |
| L032 | 1-469-525-91 | INDUCTOR | 10UH | |
| L033 | 1-469-525-91 | INDUCTOR | 10UH | |
| L035 | 1-469-525-91 | INDUCTOR | 10UH | |
| L036 | 1-469-525-91 | INDUCTOR | 10UH | |
| L037 | 1-469-525-91 | INDUCTOR | 10UH | |
| L038 | 1-414-856-11 | INDUCTOR | 10UH | |
| L039 | 1-414-158-11 | INDUCTOR | 2.2UH | |
| L100 | 1-414-857-11 | INDUCTOR | 100UH | |
| L101 | 1-410-498-11 | INDUCTOR | 1.2UH | |
| L102 | 1-410-985-42 | INDUCTOR | 0.22UH | |
| L103 | 1-410-987-42 | INDUCTOR | 0.33UH | |
| L104 | 1-414-187-11 | INDUCTOR | 47UH | |
| L106 | 1-414-189-31 | INDUCTOR | 100UH | |
| L502 | 1-410-396-41 | FERRITE | 0.45UH | |
| L503 | 1-412-525-31 | INDUCTOR | 10UH | |
| L507 | 1-419-633-21 | INDUCTOR | 10MH | |
| L511 | 1-406-978-11 | INDUCTOR | 150UH | |
| L513 | 1-412-552-11 | INDUCTOR | 2.2MH | |
| L514 | 1-408-947-00 | INDUCTOR | 2.2MH | |
| L515 | 1-459-104-00 | COIL, WITH CORE | | |
| L518 | 1-414-187-11 | INDUCTOR | 47UH | |
| L600 | 1-412-529-11 | INDUCTOR | 22UH | |
| L690 | 1-412-525-31 | INDUCTOR | 10UH | |
| L902 | 1-414-187-11 | INDUCTOR | 47UH | |

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | | <PHOTO COUPLER> | | | |
| PH601 | ⚠ 8-749-924-35 | ON3171-R | | | |
| PH602 | ⚠ 8-749-924-35 | ON3171-R | | | |
| | | <IC LINK> | | | |
| PS600 | ⚠ 1-533-597-41 | IC LINK | 5A | 90V | |
| PS601 | ⚠ 1-533-597-41 | IC LINK | 5A | 90V | |
| PS602 | ⚠ 1-533-597-41 | IC LINK | 5A | 90V | |
| PS603 | ⚠ 1-533-597-41 | IC LINK | 5A | 90V | |
| | | <TRANSISTOR> | | | |
| Q001 | 8-729-421-22 | UN2211 | | | |
| Q012 | 8-729-010-25 | MSD601-RT1 | | | |
| Q013 | 8-729-010-25 | MSD601-RT1 | | | |
| Q015 | 8-729-421-22 | UN2211 | | | |
| Q016 | 8-729-010-25 | MSD601-RT1 | | | |
| Q017 | 8-729-010-25 | MSD601-RT1 | | | |
| Q100 | 8-729-010-25 | MSD601-RT1 | | | |
| Q102 | 8-729-022-54 | TRANSISTOR 2SC3779C,D-AA | | | |
| Q103 | 8-729-424-67 | UN2216 | | | |
| Q104 | 8-729-424-67 | UN2216 | | | |
| Q111 | 8-729-010-25 | MSD601-RT1 | | | |
| Q202 | 8-729-010-05 | MSB709-RT1 | | | |
| Q203 | 8-729-010-25 | MSD601-RT1 | | | |
| Q505 | 8-729-931-45 | IRF614 | | | |
| Q506 | 8-729-119-80 | 2SC2688-LK | | | |
| Q511 | 6-550-020-01 | TRANSISTOR 2SD2634-CA | | | |
| Q512 | 8-729-010-25 | MSD601-RT1 | | | |
| Q513 | 8-729-010-05 | MSB709-RT1 | | | |
| Q514 | 8-729-010-25 | MSD601-RT1 | | | |
| Q515 | 8-729-422-33 | 2SD601A-Q-TX | | | |
| Q516 | 8-729-200-17 | 2SA1091-O | | | |
| Q600 | 8-729-010-25 | MSD601-RT1 | | | |
| Q607 | 8-729-052-32 | IRFIB7N50A | | | |
| Q608 | 8-729-052-32 | IRFIB7N50A | | | |
| Q609 | 8-729-119-78 | 2SC2785-HFE | | | |
| Q612 | 8-729-421-22 | UN2211 | | | |
| Q613 | 8-729-010-25 | MSD601-RT1 | | | |
| Q614 | 8-729-421-22 | UN2211 | | | |
| Q615 | 8-729-010-25 | MSD601-RT1 | | | |
| Q616 | 8-729-216-22 | 2SA1162-G | | | |
| Q617 | 8-729-010-05 | MSB709-RT1 | | | |
| Q618 | 8-729-010-05 | MSB709-RT1 | | | |
| Q900 | 8-729-010-05 | MSB709-RT1 | | | |
| Q901 | 8-729-424-67 | UN2216 | | | |
| Q902 | 8-729-424-67 | UN2216 | | | |
| | | <RESISTOR> | | | |
| R001 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R002 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R003 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R004 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R010 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R011 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R012 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R014 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R015 | 1-218-851-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R023 | 1-216-823-11 | METAL CHIP | 1.5K | 5% | 1/10W |

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| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R024 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R025 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R026 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R029 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R030 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R038 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R039 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R041 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R042 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R044 | 1-216-834-11 | METAL CHIP | 12K | 5% | 1/10W |
| R045 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R046 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R048 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R051 | 1-218-885-11 | METAL CHIP | 39K | 0.5% | 1/10W |
| R056 | 1-216-820-11 | METAL CHIP | 820 | 5% | 1/10W |
| R058 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R060 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R061 | 1-216-819-11 | METAL CHIP | 680 | 5% | 1/10W |
| R088 | 1-216-823-11 | METAL CHIP | 1.5K | 5% | 1/10W |
| R095 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R096 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R097 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R099 | 1-216-813-11 | METAL CHIP | 220 | 5% | 1/10W |
| R100 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R103 | 1-211-981-11 | METAL CHIP | 33 | 0.5% | 1/10W |
| R106 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R107 | 1-216-828-11 | METAL CHIP | 3.9K | 5% | 1/10W |
| R108 | 1-218-839-11 | METAL CHIP | 470 | 0.5% | 1/10W |
| R109 | 1-216-019-00 | RES-CHIP | 56 | 5% | 1/10W |
| R110 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R111 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R112 | 1-218-867-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R113 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R114 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R115 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R116 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R118 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R119 | 1-211-981-11 | METAL CHIP | 33 | 0.5% | 1/10W |
| R121 | 1-215-925-11 | METAL OXIDE | 22K | 5% | 3W |
| R128 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R131 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R150 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R200 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W |
| R201 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W |
| R202 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W |
| R203 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W |
| R204 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/10W |
| R205 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W |
| R207 | 1-218-867-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R208 | 1-218-867-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R210 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R211 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R212 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R217 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R218 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R219 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R220 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R221 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R234 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R235 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R236 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R237 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R238 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R240 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R241 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R242 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R301 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/10W |
| R303 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/10W |
| R304 | 1-216-846-11 | METAL CHIP | 120K | 5% | 1/10W |
| R305 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R306 | 1-218-849-11 | METAL CHIP | 1.2K | 0.5% | 1/10W |
| R309 | 1-216-848-11 | METAL CHIP | 180K | 5% | 1/10W |
| R310 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R311 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R312 | 1-216-836-11 | METAL CHIP | 18K | 5% | 1/10W |
| R313 | 1-216-836-11 | METAL CHIP | 18K | 5% | 1/10W |
| R314 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R315 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R316 | 1-218-867-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R317 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R322 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R323 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R336 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R337 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W |
| R338 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R339 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R340 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R341 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R344 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R345 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R355 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/10W |
| R360 | 1-218-877-11 | METAL CHIP | 18K | 0.5% | 1/10W |
| R361 | 1-216-830-11 | METAL CHIP | 5.6K | 5% | 1/10W |
| R363 | 1-218-859-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R364 | 1-216-819-11 | METAL CHIP | 680 | 5% | 1/10W |
| R365 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R379 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R380 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R381 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R382 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R384 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R386 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W |
| R387 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R388 | 1-216-843-11 | METAL CHIP | 68K | 5% | 1/10W |
| R392 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R395 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R397 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R398 | 1-216-125-00 | RES-CHIP | 1.5M | 5% | 1/10W |
| R500 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R505 | 1-218-895-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R506 | 1-218-879-11 | METAL CHIP | 22K | 0.5% | 1/10W |
| R507 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R508 | 1-216-499-21 | METAL OXIDE | 56 | 5% | 3W |
| R509 | 1-216-475-21 | RES, OXIDE METAL FILM | 120 | | |
| R510 | 1-215-884-21 | METAL OXIDE | 47 | 5% | 2W |
| R511 | 1-215-900-21 | METAL OXIDE | 68 | 5% | 3W |
| R515 | 1-243-535-21 | METAL OXIDE | 220 | 5% | 3W |
| R519 | 1-243-535-21 | METAL OXIDE | 220 | 5% | 3W |
| R520 | 1-218-867-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R522 | 1-218-867-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R523 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R525 | 1-216-857-11 | METAL CHIP | 1M | 0.5% | 1/10W |
| R526 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**A**

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R531 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R533 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R542 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R543 | 1-243-710-21 | METAL OXIDE | 5.6K | 5% | 1W |
| R544 | 1-243-602-21 | METAL OXIDE | 470 | 5% | 3W |
| R546 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R549 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R550 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R551 | 1-215-447-00 | METAL | 12K | 1% | 1/4W |
| R552 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/10W |
| R553 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R554 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R555 | 1-243-709-21 | METAL OXIDE | 4.7K | 5% | 1W |
| R556 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R560 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R562 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R565 | 1-216-836-11 | METAL CHIP | 18K | 5% | 1/10W |
| R567 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R568 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W |
| R570 | 1-218-867-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R571 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R573 | 1-216-838-11 | METAL CHIP | 27K | 5% | 1/10W |
| R577 | 1-243-535-21 | METAL OXIDE | 220 | 5% | 3W |
| R578 | 1-243-540-21 | METAL OXIDE | 1 | 5% | 2W |
| R580 | 1-218-865-11 | METAL CHIP | 5.6K | 0.5% | 1/10W |
| R581 | 1-218-871-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R582 | 1-218-915-11 | METAL CHIP | 680K | 0.5% | 1/10W |
| R585 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W |
| R586 | 1-211-973-11 | METAL CHIP | 15 | 0.5% | 1/10W |
| R587 | 1-218-907-11 | METAL CHIP | 330K | 0.5% | 1/10W |
| R588 | 1-243-535-21 | METAL OXIDE | 220 | 5% | 3W |
| R589 | 1-243-568-21 | METAL OXIDE | 220 | 5% | 2W |
| R590 | 1-245-470-21 | METAL | 220K | 1% | 1/4W |
| R591 | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R593 | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R594 | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R596 | 1-215-917-21 | METAL OXIDE | 1K | 5% | 3W |
| R597 | 1-247-750-11 | CARBON | 680 | 5% | 1/2W |
| R599 | 1-216-838-11 | METAL CHIP | 27K | 5% | 1/10W |
| R601 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R603 | 1-260-328-11 | CARBON | 1K | 5% | 1/2W |
| R604 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R605 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R606 | 1-218-863-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R607 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R613 | ⚠ 1-247-289-00 | METAL | 8.2M | 5% | 1W |
| R622 | 1-240-251-11 | CEMENTED | 6.8 | 5% | 10W |
| R642 | 1-242-949-11 | FUSIBLE | 0.1 | 10% | 1W |
| R651 | 1-208-774-11 | METAL CHIP | 470 | 0.5% | 1/10W |
| R652 | 1-218-873-11 | METAL CHIP | 12K | 0.5% | 1/10W |
| R653 | 1-208-758-11 | METAL CHIP | 100 | 0.5% | 1/10W |
| R654 | 1-208-805-11 | METAL CHIP | 9.1K | 0.5% | 1/10W |
| R660 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R661 | 1-218-760-11 | METAL CHIP | 220K | 0.5% | 1/10W |
| R662 | 1-216-639-11 | METAL CHIP | 330 | 0.5% | 1/10W |
| R664 | 1-208-840-11 | METAL CHIP | 270K | 0.5% | 1/10W |
| R665 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R669 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R670 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R672 | 1-208-806-11 | METAL CHIP | 10K | 0.5% | 1/10W |
| R673 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R675 | 1-208-806-11 | METAL CHIP | 10K | 0.5% | 1/10W |

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R676 | 1-217-611-00 | METAL | 0.1 | 10% | 2W |
| R677 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R678 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R679 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R681 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R687 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R690 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R694 | 1-208-826-11 | METAL CHIP | 68K | 0.5% | 1/10W |
| R695 | 1-208-812-11 | METAL CHIP | 18K | 0.5% | 1/10W |
| R696 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R699 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R900 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R901 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R902 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R903 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R904 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/10W |
| R905 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R906 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W |
| R907 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R908 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R909 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R910 | 1-216-817-11 | METAL CHIP | 470 | 5% | 1/10W |
| R912 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R913 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R914 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R915 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R916 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R917 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R918 | 1-216-295-91 | SHORT CHIP | 0 | | |
| R919 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R920 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R921 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R922 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R923 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R924 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R925 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R928 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R929 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R930 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R931 | 1-216-807-11 | METAL CHIP | 68 | 5% | 1/10W |
| R940 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R941 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R942 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R945 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R946 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R948 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R949 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R950 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R952 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R953 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R954 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/10W |
| R955 | 1-216-840-11 | METAL CHIP | 39K | 5% | 1/10W |
| R957 | 1-211-990-11 | METAL CHIP | 75 | 0.5% | 1/10W |
| R972 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R973 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R974 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R975 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R992 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R2644 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W |
| R5000 | 1-216-081-00 | RES-CHIP | 22K | 5% | 1/10W |
| R5001 | 1-216-691-11 | METAL CHIP | 47K | 0.5% | 1/10W |
| R5002 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**A** **C**

| REF NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R5003 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R5005 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R5006 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R5007 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R5008 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R5009 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/10W |
| R5010 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R5011 | 1-216-828-11 | METAL CHIP | 3.9K | 5% | 1/10W |
| R5012 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R5013 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/10W |
| R5014 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/10W |
| R5015 | 1-208-830-11 | METAL CHIP | 100K | 0.5% | 1/10W |
| R5016 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R5020 | 1-243-600-21 | METAL OXIDE | 1 | 5% | 3W |
| R5021 | 1-208-784-11 | METAL CHIP | 1.2K | 0.5% | 1/10W |
| R5023 | 1-247-891-00 | CARBON | 330K | 5% | 1/4W |
| R5024 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/10W |
| R5025 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/10W |
| R5026 | 1-245-471-21 | METAL | 240K | 1% | 1/4W |
| R5027 | 1-245-470-21 | METAL | 220K | 1% | 1/4W |
| R5028 | 1-218-859-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R5031 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R5032 | 1-243-602-21 | METAL OXIDE | 470 | 5% | 3W |
| R5033 | 1-216-809-11 | METAL CHIP | 100 | 5% | 1/10W |
| R5034 | 1-216-851-11 | METAL CHIP | 330K | 5% | 1/10W |
| R5036 | 1-215-455-00 | METAL | 27K | 1% | 1/4W |
| R5049 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R6000 | 1-216-057-00 | RES-CHIP | 2.2K | 5% | 1/10W |
| R6001 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R6002 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R6003 | 1-216-065-91 | RES-CHIP | 4.7K | 5% | 1/10W |
| R6006 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W |
| R6007 | 1-216-864-11 | SHORT CHIP | 0 | | |
| R6008 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R6009 | 1-216-793-11 | METAL CHIP | 4.7 | 5% | 1/10W |
| R6010 | 1-216-093-91 | RES-CHIP | 68K | 5% | 1/10W |
| R6011 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R6012 | 1-215-882-21 | METAL OXIDE | 22 | 5% | 2W |
| R6013 | 1-208-824-11 | METAL CHIP | 56K | 0.5% | 1/10W |
| R6016 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R6019 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R6020 | 1-217-158-00 | METAL | 0.47 | 10% | 5W |
| R6021 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R6022 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R6023 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/10W |
| R6024 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R6025 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/10W |
| R6026 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R6027 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/10W |
| R6028 | 1-208-840-11 | METAL CHIP | 270K | 0.5% | 1/10W |
| R6029 | 1-218-760-11 | METAL CHIP | 220K | 0.5% | 1/10W |
| | | <RELAY> | | | |
| RY600 | ⚠ 1-755-198-12 | RELAY, AC POWER | | | |
| RY602 | ⚠ 1-755-395-11 | RELAY (AC POWER) | | | |
| RY603 | ⚠ 1-755-198-12 | RELAY, AC POWER | | | |
| | | <SWITCH> | | | |
| S501 | 1-572-707-11 | SWITCH, LEVER | | | |
| S502 | 1-572-707-11 | SWITCH, LEVER | | | |

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | | <#########> | |
| SWF100 | 1-781-040-11 | FILTER, SURFACE WAVE (K082) | |
| SWF101 | 1-767-302-11 | FILTER, SURFACE WAVE | |
| | | <TRANSFORMER> | |
| T501 | ⚠ 1-437-195-14 | TRANSFORMER, HORIZONTAL DRIVE | |
| T503 | ⚠ 1-453-284-11 | TRANSFORMER ASSY FLYBACK | |
| | | (NX-4009//M314)NX-4009 | |
| T504 | 1-433-850-11 | TRANSFORMER, HORIZONTAL LINEAR | |
| T508 | 1-437-610-11 | TRANSFORMER, FERRITE (PMT) | |
| T601 | ⚠ 1-443-069-21 | CONVERTER TRANSFORMER (PIT) | |
| T605 | ⚠ 1-437-851-11 | TRANSFORMER ASSY, POWER (HST) | |
| | | <THERMISTOR> | |
| TH500 | 1-800-193-00 | THERMISTOR | |
| TH600 | ⚠ 1-803-540-11 | THERMISTOR | |
| TH601 | 1-803-586-11 | THERMISTOR, NTC | |
| | | <TEST PIN> | |
| TP02 | 1-536-354-00 | POST PIN | |
| TP03 | 1-536-354-00 | POST PIN | |
| TP04 | 1-536-354-00 | POST PIN | |
| TP101 | 1-536-354-00 | POST PIN | |
| TP501 | 1-536-354-00 | POST PIN | |
| TP502 | 1-536-354-00 | POST PIN | |
| | | <TUNER> | |
| TU101 | 1-693-636-11 | TUNER (TEDE9) | |
| | | <VARISTOR> | |
| VD601 | 1-803-830-11 | VARISTOR (ERZV14D621) | |
| | | <CRYSTAL> | |
| X001 | 1-795-839-21 | QUARTZ CRYSTAL UNIT | |

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| | | |
|---|---|---|
| * | A-1410-692-A | MOUNTED PWB (VAR), C |
| | | ********** |
| | 1-900-262-86 | LEAD ASSY, FOCUS |
| A703 | * 4-042-408-02 | PIN(45), WIRE |
| A704 | * 4-042-408-02 | PIN(45), WIRE |
| A705 | * 4-042-408-02 | PIN(45), WIRE |
| A706 | * 4-042-408-02 | PIN(45), WIRE |
| A707 | * 4-042-408-02 | PIN(45), WIRE |
| A751 | 4-382-854-01 | SCREW (M3X8), P, SW (+) |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

# C

| REF NO. | | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|---|
| | | | <CAPACITOR> | | | |
| C751 | | 1-107-652-11 | ELECT | 10UF | 20.00% | 250V |
| C752 | | 1-115-350-51 | CERAMIC | 0.0047UF | | 2KV |
| C753 | | 1-136-189-00 | MYLAR | 0.1UF | 10.00% | 250V |
| C754 | | 1-107-651-11 | ELECT | 4.7UF | 20.00% | 250V |
| C756 | | 1-104-662-91 | ELECT | 22UF | 20.00% | 25V |
| C781 | | 1-107-651-11 | ELECT | 4.7UF | 20.00% | 250V |
| C783 | | 1-102-074-00 | CERAMIC | 0.001UF | 10.00% | 50V |
| C784 | | 1-102-074-00 | CERAMIC | 0.001UF | 10.00% | 50V |
| C785 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C786 | | 1-115-350-51 | CERAMIC | 0.0047UF | | 2KV |
| C787 | | 1-115-350-51 | CERAMIC | 0.0047UF | | 2KV |
| C788 | | 1-164-217-11 | CERAMIC CHIP | 150PF | 5.00% | 50V |
| C789 | | 1-164-217-11 | CERAMIC CHIP | 150PF | 5.00% | 50V |
| C790 | | 1-164-217-11 | CERAMIC CHIP | 150PF | 5.00% | 50V |
| C1800 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C1803 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C1804 | | 1-126-964-11 | ELECT | 10UF | 20.00% | 50V |
| C1809 | | 1-126-942-61 | ELECT | 1000UF | 20.00% | 25V |
| | | | <CONNECTOR> | | | |
| CN701 | * | 1-564-510-11 | PLUG, CONNECTOR 7P | | | |
| CN702 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN703 | | 1-691-765-11 | PLUG (MICRO CONNECTOR) 3P | | | |
| CN704 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN705 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN706 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN707 | | 1-695-915-11 | TAB (CONTACT) | | | |
| CN1801 | * | 1-564-509-11 | PLUG, CONNECTOR 6P | | | |
| CN1802 | * | 1-564-506-11 | PLUG, CONNECTOR 3P | | | |
| | | | <DIODE> | | | |
| D750 | | 8-719-908-03 | GP08D | | | |
| D754 | | 8-719-970-83 | HSS82-TJ | | | |
| D755 | | 8-719-970-83 | HSS82-TJ | | | |
| D756 | | 8-719-970-83 | HSS82-TJ | | | |
| D782 | | 8-719-109-89 | RD5.6ESB2 | | | |
| D783 | | 8-719-991-33 | 1SS133T-77 | | | |
| D784 | | 8-719-991-33 | 1SS133T-77 | | | |
| D1803 | | 8-719-911-19 | 1SS119-25 | | | |
| D1804 | | 8-719-911-19 | 1SS119-25 | | | |
| D1808 | | 8-719-908-03 | GP08D | | | |
| | | | <IC> | | | |
| IC751 | | 6-703-482-01 | IC TDA6108AJF/N1 | | | |
| IC1800 | | 8-759-822-38 | LA6510 | | | |
| | | | <JACK> | | | |
| J751 | ⚠ | 1-451-544-11 | SOCKET, CRT | | | |
| | | | <COIL> | | | |
| L750 | | 1-414-856-11 | INDUCTOR | 10UH | | |
| L752 | | 1-414-187-11 | INDUCTOR | 47UH | | |
| L753 | | 1-414-187-11 | INDUCTOR | 47UH | | |
| L754 | | 1-414-187-11 | INDUCTOR | 47UH | | |
| L780 | | 1-410-667-31 | INDUCTOR | 22UH | | |

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | | <TRANSISTOR> | | | |
| Q1800 | 8-729-119-76 | 2SA1175-HFE | | | |
| Q1801 | 8-729-119-78 | 2SC2785-HFE | | | |
| Q1802 | 8-729-119-78 | 2SC2785-HFE | | | |
| Q1804 | 8-729-119-78 | 2SC2785-HFE | | | |
| | | <RESISTOR> | | | |
| R752 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R753 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R754 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R756 | 1-219-746-11 | METAL | 1K | 5% | 1/2W |
| R757 | 1-219-746-11 | METAL | 1K | 5% | 1/2W |
| R758 | 1-219-746-11 | METAL | 1K | 5% | 1/2W |
| R760 | 1-260-127-11 | CARBON | 220K | 5% | 1/2W |
| R763 | 1-260-087-11 | CARBON | 100 | 5% | 1/2W |
| R764 | 1-260-087-11 | CARBON | 100 | 5% | 1/2W |
| R765 | 1-260-087-11 | CARBON | 100 | 5% | 1/2W |
| R773 | 1-260-132-11 | CARBON | 560K | 5% | 1/2W |
| R774 | 1-215-912-11 | METAL OXIDE | 150 | 5% | 3W |
| R780 | 1-260-131-11 | CARBON | 470K | 5% | 1/2W |
| R781 | 1-216-391-21 | METAL OXIDE | 1.5 | 5% | 3W |
| R794 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W |
| R795 | 1-260-087-11 | CARBON | 100 | 5% | 1/2W |
| R796 | 1-215-413-00 | METAL | 470 | 1% | 1/4W |
| R797 | 1-215-405-00 | METAL | 220 | 1% | 1/4W |
| R1800 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R1801 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R1802 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R1803 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W |
| R1804 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R1805 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1806 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R1808 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R1809 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1810 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1811 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R1812 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1813 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R1814 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R1815 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1816 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1821 | 1-215-457-00 | METAL | 33K | 1% | 1/4W |
| R1822 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1823 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R1824 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R1825 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R1826 | 1-215-421-00 | METAL | 1K | 1% | 1/4W |
| | | <VARIABLE RESISTOR> | | | |
| RV750 | 1-241-656-11 | RES, ADJ, METAL FILM 110M | | | |
| RV1800 | 1-238-019-11 | RES, ADJ, CARBON 47K | | | |

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**F** **H1** **H2**

| REF NO. | | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|---|
| | * | A-1410-172-A | MOUNTED PWB, F | | | |
| | | | ********** | | | |
| | | | <CAPACITOR> | | | |
| C654 | ⚠ | 1-117-703-11 | CERAMIC | 0.0047UF | 99% | 250V |
| C4601 | ⚠ | 1-165-530-11 | FILM | 0.47UF | 20.00% | 275V |
| C4602 | ⚠ | 1-109-835-11 | MYLAR | 0.68UF | 20.00% | 250V |
| | | | <CONNECTOR> | | | |
| CN4601* | ⚠ | 1-580-843-11 | PIN,CONNECTOR (POWER) | | | |
| CN4602 | ⚠ | 1-580-843-11 | PIN, CONNECTOR (POWER) | | | |
| CN4603 | | 1-695-915-11 | TAB (CONTACT) | | | |
| | | | <FUSE> | | | |
| F4601 | ⚠ | 1-576-556-11 | FUSE | 5A | 250V | |
| | | | <######### > | | | |
| FH001 | | 1-533-223-11 | FUSE HOLDER | 0A | 0V | |
| FH002 | | 1-533-223-11 | FUSE HOLDER | 0A | 0V | |
| | | | <RESISTOR> | | | |
| R4601 | ⚠ | 1-245-653-91 | RES, (SURGE RESISTANCE) | 820K | | |
| | | | <TRANSFORMER> | | | |
| T4601 | ⚠ | 1-429-707-12 | TRANSFORMER, LINE FILTER | | | |
| T4602 | ⚠ | 1-431-182-11 | TRANSFORMER, LINE FILTER | | | |

**********

| | | | | | | |
|---|---|---|---|---|---|---|
| | * | A-1410-171-A | MOUNTED PWB, H1 | | | |
| | | | ********** | | | |
| | | | <CAPACITOR> | | | |
| C3900 | | 1-137-150-11 | MYLAR | 0.01UF | 5.00% | 50V |
| C3902 | | 1-137-150-11 | MYLAR | 0.01UF | 5.00% | 50V |
| C3910 | | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| C3911 | | 1-126-947-11 | ELECT | 47UF | 20.00% | 25V |
| | | | <CONNECTOR> | | | |
| CN3901 | * | 1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CN3903 | | 1-564-509-11 | PLUG, CONNECTOR 6P | | | |
| CN3905 | * | 1-564-510-11 | PLUG, CONNECTOR 7P | | | |
| CN3907 | * | 1-564-520-11 | PLUG, CONNECTOR 5P | | | |
| CN3908 | * | 1-564-508-11 | PLUG, CONNECTOR 5P | | | |
| | | | <DIODE> | | | |
| D3908 | | 8-719-109-89 | RD5.6ESB2 | | | |
| D3912 | | 8-719-991-33 | 1SS133T-77 | | | |
| D3913 | | 8-719-991-33 | 1SS133T-77 | | | |

| REF NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | | <JACK> | | | |
| J3903 | 1-770-329-13 | JACK, PIN 3P | | | |
| J3904 | 1-770-786-22 | JACK | | | |
| | | <COIL> | | | |
| L3901 | 1-414-183-41 | INDUCTOR | 10UH | | |
| L3902 | 1-414-183-41 | INDUCTOR | 10UH | | |
| | | <TRANSISTOR> | | | |
| Q3901 | 8-729-029-94 | DTC143TSA | | | |
| Q3902 | 8-729-029-94 | DTC143TSA | | | |
| | | <RESISTOR> | | | |
| R3907 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R3908 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R3909 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R3910 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R3911 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R3912 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R3914 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R3915 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R3916 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R3920 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R3926 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | <SWITCH> | | | |
| S3902 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3903 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3904 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3905 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3907 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3908 | 1-692-431-21 | SWITCH, TACTILE | | | |
| S3909 | 1-692-431-21 | SWITCH, TACTILE | | | |

**********

| | | | | | | |
|---|---|---|---|---|---|---|
| | * | A-1410-168-A | MOUNTED PWB, H2 | | | |
| | | | ********** | | | |
| A3900 | * | 4-055-304-01 | HOLDER, LED | | | |
| | | | <CAPACITOR> | | | |
| C3912 | | 1-102-114-00 | CERAMIC | 470PF | 10.00% | 50V |
| C3915 | | 1-102-114-00 | CERAMIC | 470PF | 10.00% | 50V |
| | | | <CONNECTOR> | | | |
| CN3601* | ⚠ | 1-580-844-11 | PIN, CONNECTOR (POWER) | | | |
| CN3602* | ⚠ | 1-580-844-11 | PIN, CONNECTOR (POWER) | | | |
| CN3603 | * | 1-564-520-11 | PLUG, CONNECTOR 5P | | | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

**H2** **J1** **VM**

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | | <DIODE> | |
| D3906 | 8-719-083-18 | DIODE SPB-25MVWF | |
| D3909 | 8-719-991-33 | 1SS133T-77 | |
| D3910 | 8-719-109-89 | RD5.6ESB2 | |
| D3911 | 8-719-109-89 | RD5.6ESB2 | |
| | | <IC> | |
| IC3901 | 6-704-532-01 | RPM7240-H5 | |
| | | <SWITCH> | |
| S3601 | ⚠ 1-786-649-21 | SWITCH, PUSH (AC POWER) | |

**********

| | | | |
|---|---|---|---|
| * | A-1410-173-A | MOUNTED PWB, J1 | |
| | | ********** | |
| | | <CONNECTOR> | |
| CN2410 * | 1-564-523-11 | PLUG, CONNECTOR 8P | |
| | | <JACK> | |
| J2410 | 1-817-895-11 | JACK BLOCK, PIN | |

**********

| | | | |
|---|---|---|---|
| * | A-1410-174-A | MOUNTED PWB, VM | |
| | | ********** | |
| A5902 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| A5906 | 4-382-854-01 | SCREW (M3X8), P, SW (+) | |
| | | <CAPACITOR> | |
| C5902 | 1-104-661-91 | ELECT 330UF 20.00% 16V | |
| C5903 | 1-161-830-00 | CERAMIC 0.0047UF 500V | |
| C5905 | 1-107-648-91 | ELECT 100UF 20.00% 160V | |
| C5906 | 1-130-491-00 | MYLAR 0.047UF 5.00% 50V | |
| C5907 | 1-107-638-11 | ELECT 33UF 20.00% 160V | |
| C5908 | 1-106-383-00 | MYLAR 0.047UF 10.00% 200V | |
| C5909 | 1-126-933-11 | ELECT 100UF 20.00% 16V | |
| C5910 | 1-130-471-00 | MYLAR 0.001UF 5.00% 50V | |
| C5911 | 1-107-949-11 | ELECT 2.2UF 20.00% 160V | |
| C5912 | 1-104-999-11 | MYLAR 0.1UF 10.00% 200V | |
| C5913 | 1-130-471-00 | MYLAR 0.001UF 5.00% 50V | |
| C5914 | 1-126-933-11 | ELECT 100UF 20.00% 16V | |
| C5916 | 1-130-491-00 | MYLAR 0.047UF 5.00% 50V | |
| C5917 | 1-126-925-91 | ELECT 470UF 20.00% 10V | |
| C5918 | 1-162-117-00 | CERAMIC 100PF 10.00% 500V | |
| C5919 | 1-136-497-81 | FILM 0.1UF 5.00% 50V | |

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | | <CONNECTOR> | |
| CN2801 * | 1-564-506-11 | PLUG, CONNECTOR 3P | |
| CN5901 | 1-564-509-11 | PLUG, CONNECTOR 6P | |
| CN5904 * | 1-770-723-11 | CONNECTOR, BOARD TO BOARD 8P | |
| | | <DIODE> | |
| D5901 | 8-719-991-33 | 1SS133T-77 | |
| D5902 | 8-719-110-86 | RD39ES-B | |
| D5903 | 8-719-991-33 | 1SS133T-77 | |
| D5904 | 8-719-110-86 | RD39ES-B | |
| D5905 | 8-719-991-33 | 1SS133T-77 | |
| | | <COIL> | |
| L5901 | 1-414-187-11 | INDUCTOR 47UH | |
| | | <TRANSISTOR> | |
| Q5901 | 8-729-230-45 | 2SC2458-YGR | |
| Q5902 | 8-729-809-26 | 2SA1606-E | |
| Q5903 | 8-729-230-45 | 2SC2458-YGR | |
| Q5904 | 8-729-119-76 | 2SA1175-HFE | |
| Q5905 | 8-729-230-45 | 2SC2458-YGR | |
| Q5906 | 8-729-809-29 | 2SC4159-E | |
| Q5907 | 8-729-230-45 | 2SC2458-YGR | |
| | | <RESISTOR> | |
| R5901 | 1-249-401-11 | CARBON 47 5% 1/4W | |
| R5902 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R5903 | 1-247-734-11 | CARBON 39 5% 1/2W | |
| R5904 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R5905 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R5906 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R5907 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R5908 | 1-249-383-11 | CARBON 1.5 5% 1/4W | |
| R5909 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R5910 | 1-249-403-11 | CARBON 68 5% 1/4W | |
| R5911 | 1-249-439-11 | CARBON 68K 5% 1/4W | |
| R5912 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R5914 | 1-249-403-11 | CARBON 68 5% 1/4W | |
| R5915 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R5916 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R5917 | 1-249-416-11 | CARBON 820 5% 1/4W | |
| R5918 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R5919 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R5920 | 1-249-439-11 | CARBON 68K 5% 1/4W | |
| R5921 | 1-243-534-21 | METAL OXIDE 180 5% 3W | |
| R5922 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R5923 | 1-249-383-11 | CARBON 1.5 5% 1/4W | |
| R5925 | 1-249-400-11 | CARBON 39 5% 1/4W | |
| R5929 | 1-215-880-71 | METAL OXIDE 10 5% 2W | |
| R5936 | 1-249-406-11 | CARBON 120 5% 1/4W | |
| R5937 | 1-249-406-11 | CARBON 120 5% 1/4W | |
| R5938 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R5939 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R5940 | 1-249-413-11 | CARBON 470 5% 1/4W | |

**********

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | | <ACCESSORIES AND PACKING MATERIALS> | |
| | | ********** | |
| | 3-701-910-00 | SCREW, SPECIAL (DIA. 3.8X20) | |
| * | 4-029-168-11 | BAG, PROTECTION | |
| * | 4-091-304-01 | CUSHION (UPPER) | |
| * | 4-091-305-01 | CUSHION (LOWER) | |
| * | 4-101-247-01 | INDIVID CARTON | |
| | 4-099-163-11 | MANUAL, INSTRUCTION | |
| | 4-392-003-11 | BAND, HOLD | |
| | 4-392-004-11 | CLIP | |
| ********** | | | |
| | | <REMOTE COMMANDER> | |
| | | ********** | |
| | 1-478-346-11 | REMOTE COMMANDER (RM-W104) | |
| | 4-084-290-01 | REMOTE COMMANDER BATTERY COVER | |

| REF NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

**Sony Corporation**
**Sony Technology Malaysia Sdn. Bhd.**
**Visual Products**

**9-872-414-01**

**English**
**© 2003.11**

SONY

4-099-163-**11** (3)

# *Trinitron Color TV*

## Operating Instructions — GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

## 使用說明書 — CT

- 使用本電視機之前請先詳細閱讀此手冊，並妥善保存以備日後用作參考。

## 使用说明书 — CS

- 使用本电视机之前请详细阅读此手册，并妥善保存以备日后用作参考。

FD Trinitron
WEGA

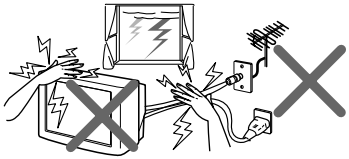
*KV-AR29*
*KV-AR25*

© 2003 Sony Corporation

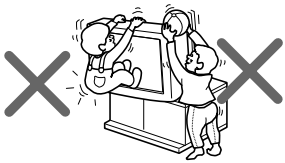
M90B

# WARNING

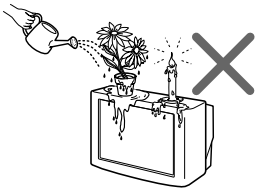
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220-240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



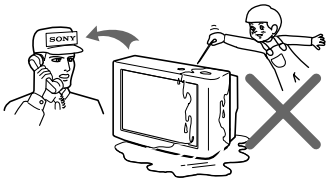
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



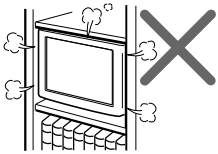
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



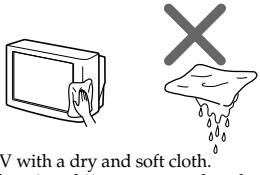
Do not place any objects on the TV. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



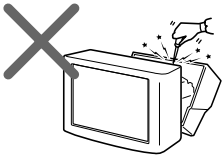

Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



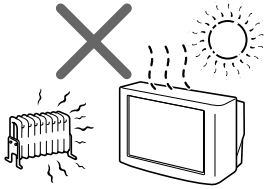
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



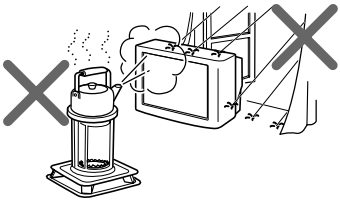
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



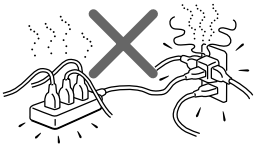
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



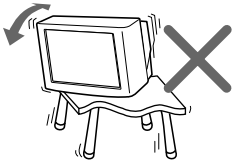
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



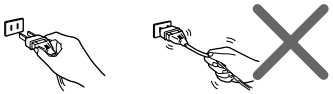
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



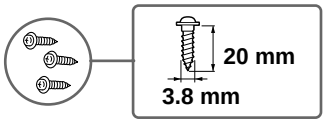
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

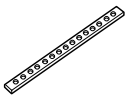
# ■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.



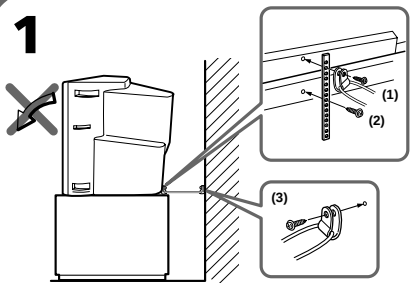

screws

clamps



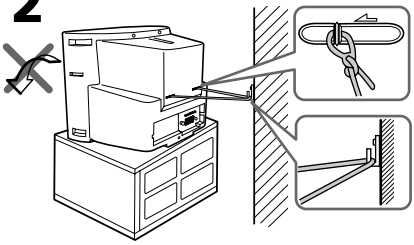
band

**1**




(1) Screw the band and one clamp to the provided hole at the rear of your TV.
(2) Screw the band to the TV stand.
(3) Put a cord or chain through both clamps and screw the other clamp to a wall or pillar.

**2**



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

**Note**

- Use only the supplied screws. Use of other screws may damage the TV.

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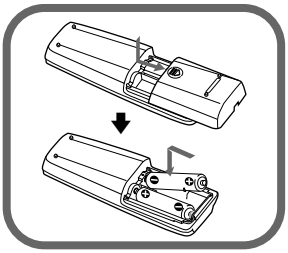
GB

# ■ Getting Started

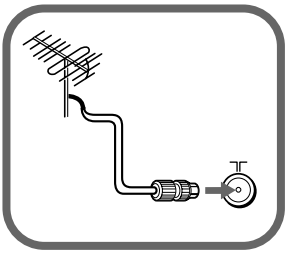


## Step 1

Insert the batteries (supplied) into the remote.

**Note**

- Do not use old or different types of batteries together.

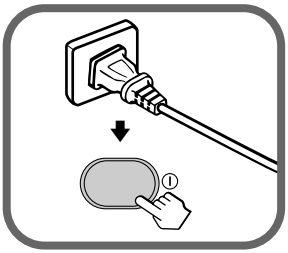


## Step 2

Connect the antenna cable (not supplied) to ⅂ (antenna input) at the rear of the TV.

**Tip**

- You can also connect your TV to other optional components (see page 23).

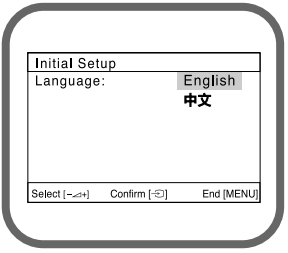


## Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

**Note**

- The ⏻ (standby) indicator flashes green for a few seconds when turning on the TV. This does not indicate a malfunction.




## Step 4

Set up the TV by following the instructions of the “Initial Setup” menu (see page 7).

# ■ Setting up your TV ("Initial Setup")

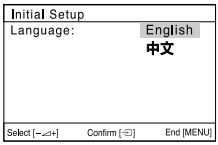
When you turn on your TV for the first time, the "Initial Setup" menu will appear. You may change the menu language, preset the TV channels automatically and adjust the picture position using the buttons on the TV front panel.

**Tip**

- The MENU, ⊕ and ↑/↓/←/→ buttons on the remote control can also be used for the operations below.

**1** Press ◿ +/– to select the desired menu language, then press ⊖.

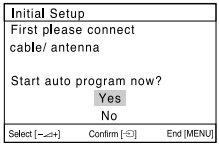
The selected menu language appears.




**2** Press ◿ +/– to select "Yes", then press ⊖ to preset the channels automatically or select "No" to skip automatic channel presetting.

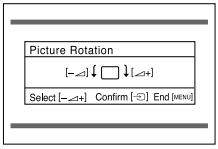
Once you select "Yes", your TV will start searching for all the available channels.

If the message "No channel found. Please connect cable/antenna." appears, check your TV connections, then press ⊖.



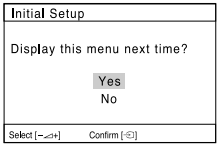

**3** Press ◿ +/– to adjust the bars on the top and bottom of the menu if they are slanted, then press ⊖.

If no adjustment is necessary, then press ⊖.




**4** Press ◿ +/– to select "No", then press ⊖. This menu will not appear again the next time you turn on the TV by pressing ⏻.

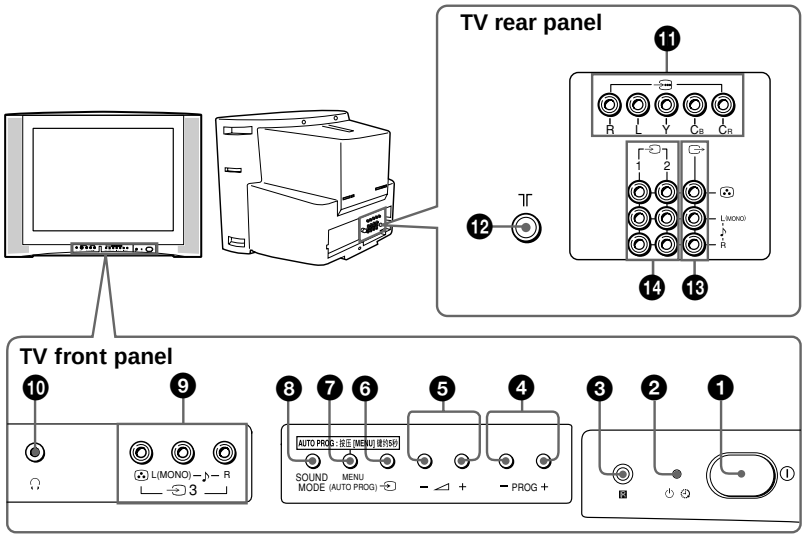
To allow this menu to appear again, select "Yes", then press ⊖.




**Tips**

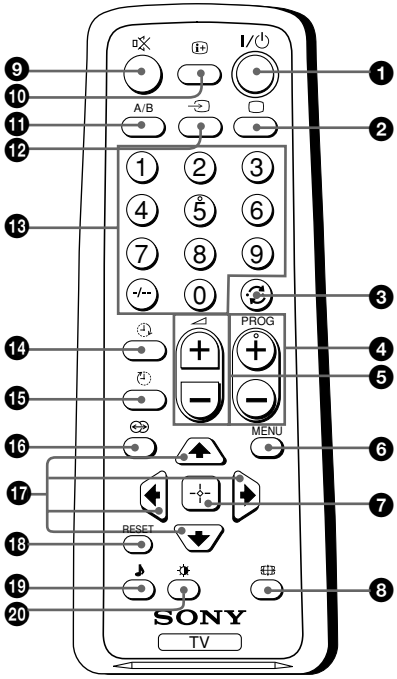
- You can immediately go to the end of the "Initial Setup" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 13).
- You can also preset the channels automatically by pressing MENU (AUTO PROG) button on the TV front panel for about five seconds.

# ■ TV front and rear panels




| Button/Terminal | Function | Page |
|---|---|---|
| ❶ ⏻ | Turn off or turn on the TV. | 6 |
| ❷ ⏻ | Standby indicator. | 6 |
| ❷ 🕘 | Wake Up indicator. | 19 |
| ❸ | Remote control sensor. | – |
| ❹ PROG +/– | Select program number. | – |
| ❺ +/– | Adjust volume. | – |
| ❻ ⊖ | Select TV or video input. | 23 |
| **Menu operations** | | |
| ❺ +/– | Select and adjust items. | – |
| ❻ ⊖ | Confirm selected items. | – |
| ❼ MENU | Display or cancel the menu. | – |
| ❼ (AUTO PROG) | Preset channels automatically. | 7 |
| ❽ SOUND MODE | Select sound mode options.<br>5-Band Graphic Equalizer display will appear. | 11 |
| ❾ ⊖3 | Video input terminal 3. | 23 |
| ❿ 🎧 | Headphone jack. | – |
| ⓫ | Component video input terminal. | 24 |
| ⓬ | Antenna input terminal. | 23 |
| ⓭ ⊖ | Monitor output terminal. | 23 |
| ⓮ ⊖1, ⊖2 | Video input terminal 1, 2. | 23 |

# ■ Using the remote control and basic functions




| Button | Description | Page |
|---|---|---|
| ❶ I/⏻ | Turn off temporarily or turn on the TV. | – |
| ❷ ▭ | Display the TV program. | – |
| ❸ ↻ | Jump to last program number that has been watched for at least five seconds . | – |
| ❹ PROG +/– | Select program number. | – |
| ❺ ◿ +/– | Adjust volume. | – |
| ❽ ▭ | Change the picture size: “On” (16:9 wide-mode), “Off”. | – |
| ❾ 🔇 | Mute the sound. | – |
| ❿ i+ | Display on-screen information. | – |
| ⓬ ⇨ | Select TV or video input. | 23 |
| ⓭ 0 – 9, -/-- | Input numbers. | – |
| ⓰ ⇔ | Select surround mode options: “On” (surround), “Simulated” (stereo-like monaural sound), “Off”. | – |
| ⓲ RESET | Set TV to factory setting. | 25 |

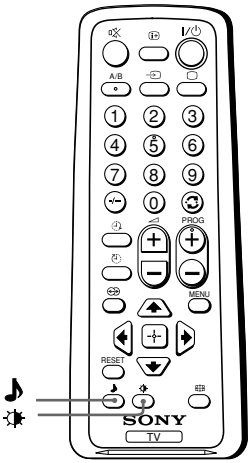
**continue**

*continued*

| Button | Description | Page |
|---|---|---|
| ⓳ ♪ | Select sound mode options.<br>5-band Graphic Equalizer display will appear. | 11 |
| ⓴ ☼ | Select picture mode options. | 11 |
| **Menu operations** | | |
| ❻ MENU | Display or cancel the menu. | 15 |
| ❼ ⊕ | Confirm selected items. | 15 |
| ⓱ ↑, ↓, ←, → | Select and adjust items. | 15 |
| **Timer operations** | | |
| ⓮ ◴ | Set TV to turn on automatically. | – |
| ⓯ ◴ | Set TV to turn off automatically. | – |
| **Stereo/bilingual operations** | | |
| ⓫ A/B | Select stereo/bilingual mode. | 12 |

# Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the "Personal" option.




## Selecting the picture mode

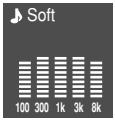
Press ☼ to select the desired picture mode.

| Select | To view |
|---|---|
| "Dynamic" | high contrast pictures. |
| "Standard" | normal pictures. |
| "Soft" | mild pictures. |
| "Personal" | the last adjusted picture setting from the "Picture Adjustment" option in the menu (see page 16). |

## Selecting the sound mode

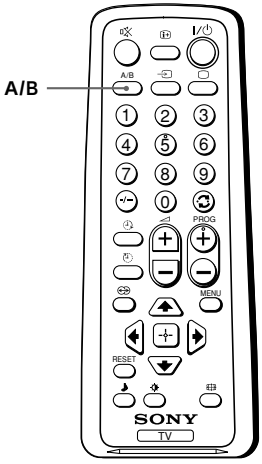
Press ♪ (or SOUND MODE on the front panel) to select the desired sound mode.

5-Band Graphic Equalizer display will appear.

| Select | | To listen to |
|---|---|---|
| "Dynamic" | | dynamic and clear sound that emphasizes both the low and high tones. |
| "Drama" | | sound that emphasizes voice and high tones. |
| "Soft" |   | soft, natural and relaxing sounds. |
| "Personal" | | the last adjusted sound setting from the "Sound Adjustment" option in the menu (see page 18). |

# ■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.




## When receiving a NICAM program

| Broadcasting | On-screen display (Selected sound) |
|---|---|
| NICAM stereo | NICAM (Stereo sound) → Mono (Regular sound) |
| NICAM bilingual | NICAM Main (Main sound) → NICAM Sub (Sub sound) → Mono (Regular sound) |
| NICAM monaural | NICAM Main (Main sound) → Mono (Regular sound) |

## When receiving an A2 program

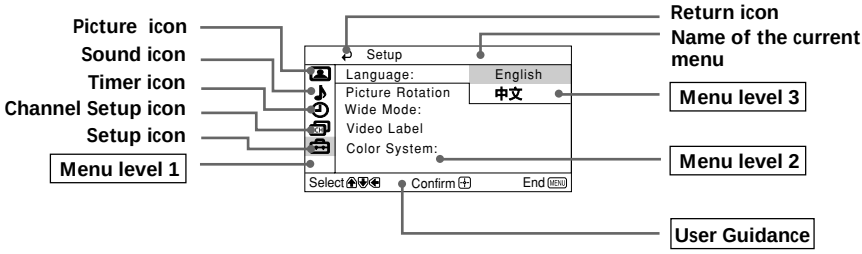
| Broadcasting | On-screen display (Selected sound) |
|---|---|
| A2 stereo | Stereo (Stereo sound) → Mono (Regular sound) |
| A2 bilingual | Main (Main sound) → Sub (Sub sound) |

**Notes**

- If the stereo sound is noisy when receiving a stereo program, select “Mono”. The sound becomes monaural but the noise is reduced.
- Before receiving a NICAM stereo program in China, please check the NICAM broadcast condition in your area. When receiving a NICAM stereo program, the receiving conditions might vary depending on area. In addition, different strength of the NICAM broadcast signal might affect the receiving quality.

# ■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



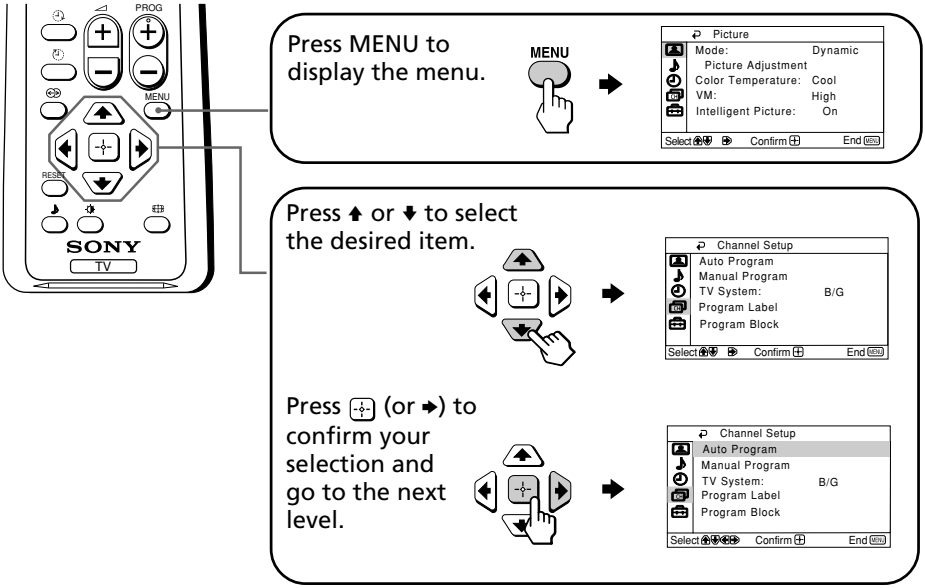

| Level 1 | Level 2 | Level 3/Function | Page |
|---|---|---|---|
| "Picture" | "Mode" | Select the picture mode:<br>"Dynamic" → "Standard" → "Soft" → "Personal" | 16 |
| | "Picture Adjustment" | Adjust the "Personal" option:<br>"Picture" → "Brightness" → "Color" →<br>"Hue" → "Sharpness" → "Reset" | |
| | "Color Temperature" | Adjust white color tint:<br>"Cool" → "Neutral" → "Warm" | |
| | "VM" | Sharpen the edges of each object:<br>"High" → "Low" → "Off" | |
| | "Intelligent Picture" | Optimize picture quality:<br>"On" → "Off" | |
| "Sound" | "Mode" | Select the sound mode:<br>"Dynamic" → "Drama" → "Soft" → "Personal" | 17 |
| | "Sound Adjustment" | Adjust sound frequency settings of "Personal" option:<br>"Adjust" → "Reset" | |
| | "Balance" | Select to emphasize the left and right speakers. | |
| | "Intelligent Volume" | Adjust volume automatically:<br>"On" → "Off" | |
| | "Surround" | Select the surround mode:<br>"On" → "Simulated" → "Off" | |

continue

***continued***

| Level 1 | Level 2 | Level 3/Function | Page |
|---|---|---|---|
| "Timer" | "Sleep Timer" | Set TV to turn off automatically. | 19 |
| | "Wake Up Timer" | Set TV to turn on automatically. | |
| "Channel Setup" | "Auto Program" | Preset channels automatically. | 20 |
| | "Manual Program" | Preset channels manually. | |
| | "TV System" | Select the TV system:<br>"B/G" → " I" → "D/K" → "M" | |
| | "Program Label" | Label the program number. | |
| | "Program Block" | Block unwanted programs. | |
| "Setup" | "Language" | Change the menu language:<br>"English" → "中文" (Chinese) | 22 |
| | "Picture Rotation" | Adjust the picture position. | |
| | "Wide Mode" | Change the picture size:<br>"On" (16:9 wide-mode) → "Off" | |
| | "Video Label" | Label the connected equipment. | |
| | "Color System" | Select the color system:<br>"Auto" → "PAL" → "SECAM" →"NTSC3.58" → "NTSC4.43" | |

## How to use the menu




### Other menu operations

| To | Press |
|---|---|
| Adjust the setting value | ↑, ↓, ← or →. |
| Move to the next/previous menu level | ← or →. |
| Cancel the menu | MENU. |

**Tips**

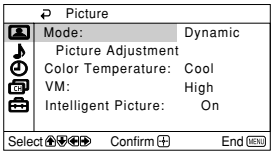
- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (↩) is highlighted, then press ⊕.
- The MENU, ⏎ and ◿ +/– buttons on the TV front panel can also be used for the operations above (see page 8).

# ■ Changing the “Picture” setting

The “Picture” menu allows you to adjust the picture settings.

**1** Press MENU.

**2** Make sure the “Picture” icon ( ) is selected, then press .




**3** Press ↑ or ↓ to select the desired item (e.g., “Mode”), then press .

| Select | To |
|---|---|
| “Mode” | choose either “Dynamic”, “Standard”, “Soft” or “Personal”* (see page 11). |
| “Color Temperature” | adjust white color tint.<br>Choose either “Cool” (blue tint), “Neutral” (neutral tint) or “Warm” (red tint). |
| “VM”<br>(Velocity Modulation) | sharpen picture definition.<br>Choose either “High”, “Low” or “Off”. |
| “Intelligent Picture” | optimize picture quality.<br>Press ↑ or ↓ to select “On”, then press .<br>To cancel, select “Off”, then press . |

* You can adjust the setting to your personal preference in the “Picture Adjustment” , “Color Temperature” and “VM” options only when the “Personal” mode is selected.

## Adjusting the “Picture Adjustment” items under “Personal” mode

**1** Press ↑ or ↓ to select either “Picture” (contrast), “Brightness”, “Color”, “Hue” (color tones) or “Sharpness”, then press .

Selecting “Reset” will set your TV to the factory setting.

**2** Press ↑,↓,← or → to adjust the setting of your selected item, then press .

**3** Repeat the above steps to adjust other items.

The adjusted settings will be received when you select “Personal”.

**Notes**

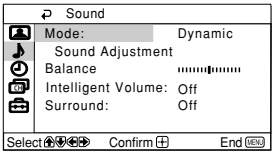
- “Hue” can be adjusted for the NTSC color system only.
- Reducing “Sharpness” can also reduce picture noise.

# ■ Changing the “Sound” setting

The “Sound” menu allows you to adjust the sound settings.

**1** Press MENU.

**2** Press ↑ or ↓ to select the “Sound” icon ( ♪ ), then press ⊕.




**3** Press ↑ or ↓ to select the desired item (e.g., “Mode”), then press ⊕.

| Select | To |
|---|---|
| “Mode” | choose either “Dynamic”, “Drama”, “Soft” or “Personal”* (see page 11). |
| “Balance” | Press ↓ or ← to emphasize the left speaker.<br>Press ↑ or → to emphasize the right speaker. |
| “Intelligent Volume” | adjust the volume of all program numbers and video inputs automatically.<br>Press ↑ or ↓ to select “On”, then press ⊕.<br>To cancel, select “Off”, then press ⊕. |
| “Surround” | choose either “On”, “Simulated” or “Off” (see page 9). |

* You can adjust the setting to your personal preference in the “Sound Adjustment” option only when the “Personal” mode is selected (see page 18).

continue

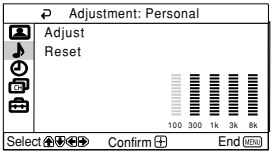
*continued*

## Adjusting the “Sound Adjustment” item under “Personal” mode

The 5-Band Graphic Equalizer feature allows you to adjust sound frequency settings of “Personal” mode in the menu.

**1** Make sure that “Adjust” is selected, then press ⊕.

Selecting “Reset” will set your TV to the factory setting.




**2** Press ← or → to select the desired sound frequency, then press ↑ or ↓ to adjust the setting and press ⊕.

The adjusted settings will be received when you select “Personal”.

**Notes**

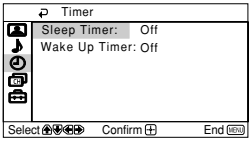
- Adjusting higher frequency will affect higher pitched sound and adjusting lower frequency will affect lower pitched sound.
- You may display the settings directly using the SOUND MODE button on the TV front panel (see page 8) or ♪ button on the remote control (see page 10).

# ■ Changing the “Timer” setting

The “Timer” menu allows you to set TV to turn off and turn on automatically.

**1** Press MENU.

**2** Press ↑ or ↓ to select the “Timer” icon (), then press .




**3** Press ↑ or ↓ to select the desired item (e.g., “Sleep Timer”), then press .

| Select | To |
|---|---|
| “Sleep Timer” | set TV to turn off automatically.<br>Press ↑ or ↓ to select the desired period of time (max. of 1 hour and 30 minutes), then press . |
| “Wake Up Timer” | set TV to turn on automatically.<br>Press ↑ or ↓ to select the desired period of time (max. of 12 hours), then press . After the selected length of time, the TV switches on automatically and “Wake Up Timer” will appear on the screen.<br>The  indicator on the TV lights up amber once you set the “Wake Up Timer”. |

**Notes**

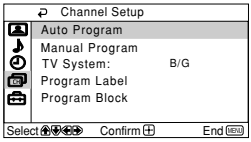
- You can also cancel “Sleep Timer” and “Wake Up Timer” by turning off the TV’s main power.
- If no buttons or controls are pressed for more than one hour after the TV is turned on using the “Wake Up Timer”, the TV automatically goes into standby mode.

# ■ Changing the “Channel Setup” setting

The “Channel Setup” menu allows you to preset channels automatically, manually preset channels, select the TV system, label the program number and block unwanted programs.

**1** Press MENU.

**2** Press ↑ or ↓ to select the “Channel Setup” icon (CH), then press ⊕.




**3** Press ↑ or ↓ to select the desired item (e.g., “Auto Program”), then press ⊕.

| Select | To |
|---|---|
| “Auto Program” | preset channels automatically. |
| “Manual Program” | manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 21). |
| “TV System” | select the TV system.<br>Press ↑ or ↓ to select either “B/G”, “I”, “D/K” or “M”, then press ⊕. |
| “Program Label” | label the program number.<br>(1) Select “Program” and press ⊕.<br>Press ↑ or ↓ to select the program number, then press ⊕.<br>(2) Select “Label” and press ⊕. Press ↑ or ↓ to select alphanumeric characters for the label, then press ⊕. |
| “Program Block” | block unwanted programs.<br>(1) Select “Program” and press ⊕.<br>Press ↑ or ↓ to select the program number, then press ⊕.<br>(2) Select “Block” and press ⊕, then press ↑ or ↓ to choose either “On” or “Off”.<br>If you preset a blocked program number, that program number will be unblocked automatically. |

**Note**

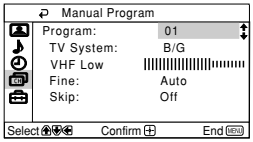
- During automatic channel presetting, your TV screen will indicate “Auto” for the “TV System”.

## Presetting channels manually

**1** After selecting "Manual Program", select the program number to which you want to preset a channel.

(1) Make sure "Program" is selected, then press ⊕.

(2) Press ↑ or ↓ until the program number you want to preset appears on the menu, then press ⊕.




**2** Select the desired channel.

(1) Make sure either "VHF Low", "VHF High" or "UHF" is selected, then press ⊕.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ⊕.

**3** If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV System", then press ⊕.

(2) Press ↑ or ↓ until the sound becomes normal, then press ⊕.

**4** If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "Fine" tuning feature.

(1) Press ↑ or ↓ to select "Fine", then press ⊕.

(2) Press ↑ or ↓ to select "Manual", then press ⊕.

(3) Press ↑,↓,← or → until the picture and sound quality are optimal, then press ⊕.

The + or – icon on the menu flashes while tuning.

**5** If you want to skip this program number when using PROG +/– , you can select the "Skip" feature.

(1) Press ↑ or ↓ to select "Skip", then press ⊕.

(2) Press ↑ or ↓ to select "On", then press ⊕.

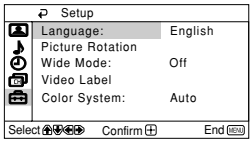
To cancel, select "Off", then press ⊕.

# ■ Changing the “Setup” setting

The “Setup” menu allows you to change the menu language, adjust the picture position, change the picture size, label the connected equipment and select the color system.

**1** Press MENU.

**2** Press ↑ or ↓ to select the “Setup” icon (🧰), then press ⊕.

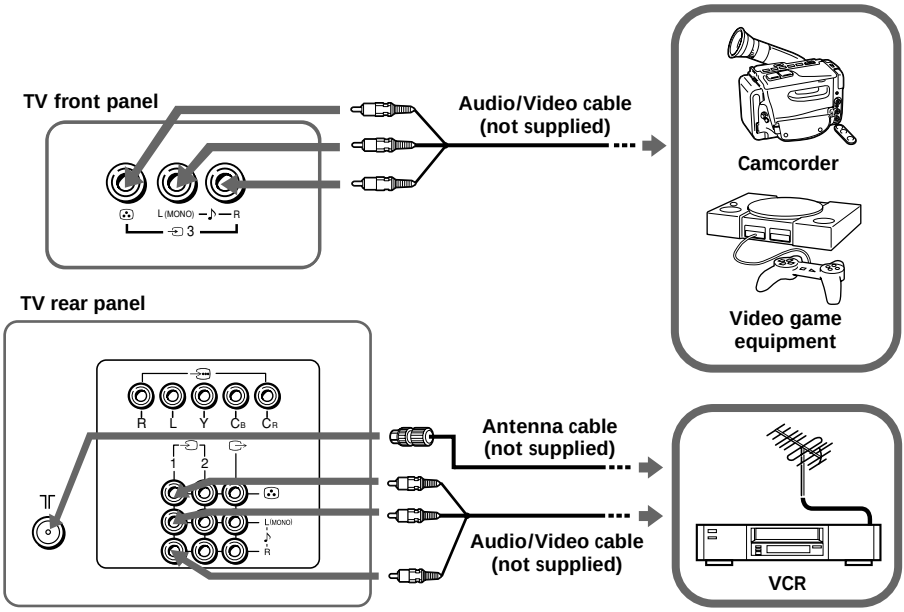



**3** Press ↑ or ↓ to select the desired item (e.g., “Language”), then press ⊕.

| Select | To |
|---|---|
| “Language” | change the menu language.<br>Press ↑ or ↓ to select either “English” or “中文” (Chinese), then press ⊕. |
| “Picture Rotation” | adjust the picture position when it is not aligned with the TV screen.<br>Press ← or → to adjust the picture position, then press ⊕. |
| “Wide Mode” | choose either “On” or “Off” (see page 9). |
| “Video Label” | label the connected equipment.<br>(1) Select “Video Input” and press ⊕.<br>Press ↑ or ↓ to select the input you want to label, then press ⊕.<br>(2) Select “Label” and press ⊕, then press ↑ or ↓ to select the label options: ”Video 1/Video 2/Video 3/DVD”, “VCR”, “SAT”, “Game” or “Edit”*.<br>* You may edit the video label. Press ↑ or ↓ to select alphanumeric characters for the label, then press ⊕. |
| “Color System” | select the color system.<br>Press ↑ or ↓ to select either “Auto”, “PAL”, “SECAM”, “NTSC3.58” or “NTSC4.43”, then press ⊕. Normally, set this to “Auto”. |

# ■ Connecting optional components

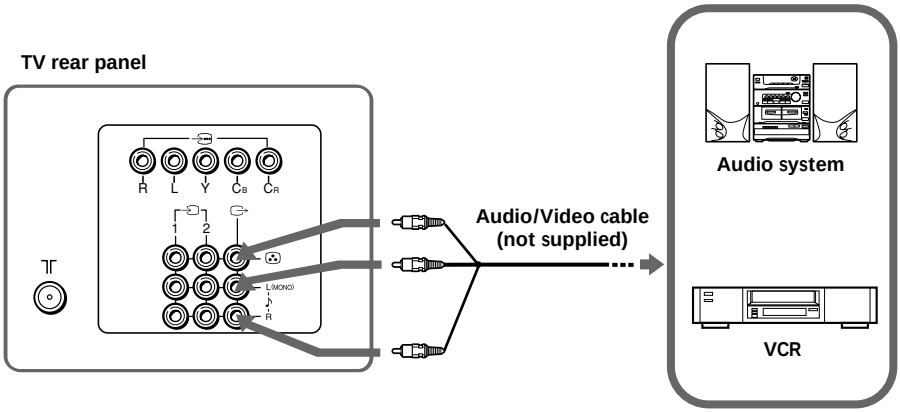
## Connecting to the video input terminal ( )




**Notes**

- If you connect a VCR to (antenna input), preset the signal output from the VCR to the program number 0 on the TV (see page 21).

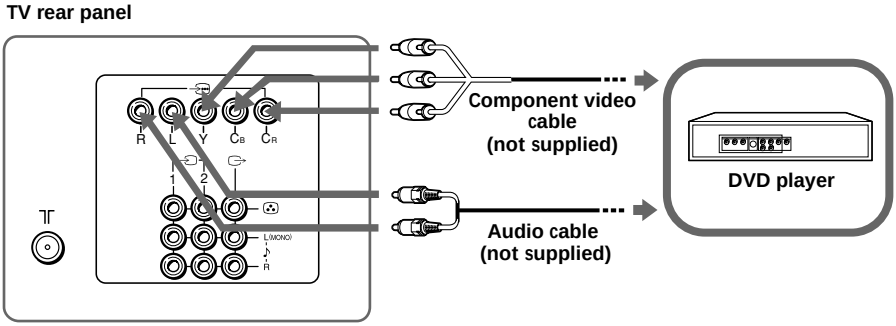
## Connecting to the monitor output terminal ( )




continue

*continued*

## Connecting to the component video input terminal ( )




**Notes**

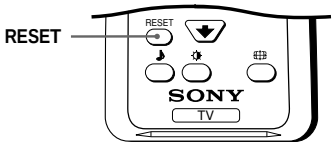
- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

| Connect | To (on the DVD player) |
|---|---|
| Y (green) | Y |
| $C_B$ (blue) | $C_B$, $P_B$, $C_b$ or B-Y |
| $C_R$ (red) | $C_R$, $P_R$, $C_r$ or R-Y |

- If you select "DVD" on your TV screen, the signal from the (monitor output) jacks will not be output properly. This does not indicate a malfunction.

# ■ Troubleshooting

If you find any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

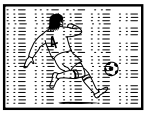



### Reset function

Press the RESET button on your remote control. Your TV will go blank for a few seconds then the "Initial Setup" menu will appear.

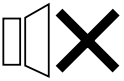
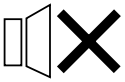
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

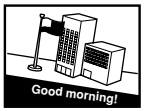
### Troubleshooting guide

| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **Snowy picture**  **Noisy sound** | • The connection is loose or the cable is damaged. | • Check the antenna cable and connection on the TV, VCR and at the wall. | 23 |
| | • The antenna setup is inappropriate. | • Check the antenna setup. Contact a Sony dealer for advice. | – |
| | • Channel presetting is inappropriate or incomplete. | • Display the "Channel Setup" menu and select "Manual Program" to preset the channel again. | 21 |
| | • Signal transmission is low. | • Try using a booster. | – |
| **Distorted picture** **Noisy sound** | • Broadcast signals are too strong. | • Turn off or disconnect the booster if it is in use. | – |
| **Good picture** **Noisy sound** | • The TV system setting is inappropriate. | • Display the "Channel Setup" menu and select the appropriate "TV System". | 21 |

**continue**

*continued*

| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **No picture**<br> <br>**No sound**<br>  | • The power cord, antenna or VCR is not connected. | • Check the power cord, antenna and VCR connections. | 23 |
| | • The TV is not turned on. | • Press I/⏻ (power).<br>• Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again. | 9<br>8 |
| **Good picture**<br> <br>**No sound**<br>  | • The volume level is too low. | • Press + to increase the volume level. | 9 |
| | • The sound is muted. | • Press 🔇 to cancel the muting. | 9 |
| **Dotted lines or stripes**<br> | • There is local interference from cars, neon signs, hair dryers, power generators, etc. | • Do not use a hair dryer or other equipment near the TV.<br>• Check the antenna setup. Contact a Sony dealer for advice. | –<br>– |
| **Double images or "ghosts"**<br> | • Broadcast signals are reflected by nearby mountains or buildings. | • Use a highly directional antenna.<br>• Use the fine tuning ("Fine") function. | –<br>21 |
| | • The antenna setup is inappropriate. | • Check the antenna setup. Contact a Sony dealer for advice. | – |
| | • Use of a booster is inappropriate. | • Turn off or disconnect the booster if it is in use. | – |
| **No color**<br> | • The color level setting is too low. | • Display the "Picture" menu and select "Personal" of "Mode", then adjust the "Color" level in "Picture Adjustment". | 16 |
| | • The color system setting is inappropriate. | • Display the "Setup" menu and check the "Color System" setting (usually set this to "Auto"). | 22 |
| | • The antenna setup is inappropriate. | • Check the antenna setup. Contact a Sony dealer for advice. | – |

| Symptom | Possible cause | Solutions | Page |
|---|---|---|---|
| **Picture slant**<br>  | • The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV. | • Keep external speakers or other electrical equipment away from the TV.<br>• Display the "Setup" menu and adjust "Picture Rotation" so that the picture position is optimal. | –<br>22 |
| **Abnormal color patches**<br> | • The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV. | • Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV. | – |
| **TV cannot receive stereo broadcast sound.**<br><br>**or**<br><br>**Stereo broadcast sound switches on and off or is distorted.** | • The connection is loose or the cable is damaged. | • Check the antenna cable and connection on the TV, VCR and at the wall. | 23 |
| | • The antenna setup is inappropriate. | • Check the antenna setup. Contact a Sony dealer for advice. | – |
| **The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.** | • Your TV's self-diagnosis function indicates the possible problems. | • Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center. | – |
| **TV cabinet creaks.** | • Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction. | — | – |
| **A small "boom" sound is heard when the TV is turned on.** | • The TV's demagnetizing function is working. This does not indicate a malfunction. | — | – |

# ■ Specifications

| | KV-AR29M90B | KV-AR25M90B | Note |
|---|---|---|---|
| **Power requirements** | 220-240 V AC, 50/60 Hz | | |
| **Power consumption (W)** | Indicated on the rear of the TV | | |
| **Television system** | B/G, I, D/K, M | | |
| **Color system** | PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43 | | |
| **Stereo/ Bilingual system** | NICAM Stereo/Bilingual B/G, I;<br>A2 Stereo/Bilingual B/G | | |
| **Channel coverage** | | | |
| **B/G** | VHF : E2 to E12<br>UHF : E21 to E69<br>CATV : S01 to S03, S1 to S41 | | |
| **I** | UHF : B21 to B68<br>CATV : S01 to S03, S1 to S41 | | |
| **D/K** | VHF : C1 to C12, R1 to R12<br>UHF : C13 to C57, R21 to R60<br>CATV : S01 to S03, S1 to S41, Z1 to Z39 | | |
| **M** | VHF : A2 to A13<br>UHF : A14 to A79<br>CATV : A-8 to A-2, A to W+4, W+6 to W+84 | | |
| **(Antenna)** | 75-ohm external terminal | | |
| **Audio output (Speaker)** | 5 W + 5 W | | |
| **Number of terminal** | | | |
| **(Video)** | Input: 3 Output: 1 | Phono jacks; 1 Vp-p, 75 ohms | |
| **(Audio)** | Input: 3 Output: 1 | Phono jacks; 500 mVrms | |
| **(Component Video)** | Input: 1 | Phono jacks;<br>Y: 1 Vp-p, 75 ohms, sync negative<br>$C_B$: 0.7 Vp-p, 75 ohms<br>$C_R$: 0.7 Vp-p, 75 ohms<br>Audio: 500 mVrms | |
| **(Headphone)** | Output: 1 | Stereo minijack | |
| **Picture tube** | 29 type | 25 type | |
| **Tube size (cm)** | 72 | 64 | Measured diagonally |
| **Screen size (cm)** | 68 | 60 | Measured diagonally |
| **Dimensions (w/h/d, mm)** | 765 × 578 × 502 | 650 × 517 × 496 | |
| **Mass (kg)** | 49 | 38 | |

Design and specifications are subject to change without notice.

http://www.sony.net/

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